ANNUAL COMPLIANCE REPORT

(Combined Approval 60CA581273)

2024/25

Contact: David Hilton - Executive Manager Operations

LICENCE COMPLIANCE REPORT 2024/25

PREFACE

This report is prepared by Western Murray Irrigation Limited (WMI) as part of licence requirements which WMI holds with the NSW Department of Climate Change, Energy, the Environment and Water and the Environmental Protection Authority (EPA). It discusses our annual compliance performance, including the environmental performance and impacts of the works and infrastructure owned or controlled by WMI and the quality of irrigation wastewater discharged from works and infrastructure.

Our environmental programs, which aim to exceed our environmental obligations, demonstrate our commitment to ensuring that our operations do not impact negatively on the environment.

Western Murray Irrigation Limited

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2024/25 Annual Compliance report

INTRODUCTION

WMI supplies water to customers in its three irrigation areas, Buronga, Coomealla and Curlwaa under Combined Approval Number 60CA581273. The Statement of Approval has a date of effect 01 July 2004 and expiry of 23 February 2030. Details of the Statement of Approval can be found at: https://waterregister.waternsw.com.au/water-register-frame.

Operating licence for Western Murray Irrigation was renewed and amended for a period of ten years on 24th January 2018, published in NSW Government Gazette No 10 of 25th January 2018:

Government Notices

WATER MANAGEMENT ACT 2000

Sections 123 and 124

RENEWAL AND AMENDMENT OF OPERATING LICENCE

NOTICE is given that, pursuant to sections 123 and 124 of the *Water Management Act 2000*, the Governor of New South Wales has, on 24th January 2018, renewed and amended the Operating Licence of Western Murray Irrigation Limited, for a period of ten years. The renewed Operating Licence commences on the day this notice is published in the NSW Government Gazette.

[n2018-247]

This Compliance Report details the monitoring and reporting activities undertaken by WMI during the 2024/25 financial year to comply with the water management licences. It also outlines irrigation development data that explains the trends in monitoring results.

All mapping details are using projected coordinate system: GDA-1994- MGA-Zone 54. Heights are in metres AHD.

STATEMENT OF APPROVAL 60CA581273 – COMPLIANCE OF CONDITIONS

Take of Water

MW0655-00001
All water supply works authorised by this approval take water in compliance with the conditions of the access licence under which water is being taken.

MW2452-00001
Water is taken through metering equipment that meet the following requirements:

A. The metering equipment accurately measures and records the flow of all water taken through the water supply work authorised by this approval.

B. Status of metering equipment compliance with the current Australian Standard AS 4747: 'Meters for non-urban supply':

- Buronga pump station meter (1) is pattern approved to NMI-M-10; installed/commissioned 05May21.
- Coomealla pump station meters (1-6) are pattern approved to NMI-M-10; installed/commissioned 01July2021.
- Curlwaa pump station meters (1-2) are pattern approved to NMI-M-10. Installed/commissioned 12July21(1) and 12Jun21(2)

Commissioning of Telemetry for DAS – WMI are working with NRAR/DCCEEW to commission our existing telemetry in accordance with 'Marketing engagement policy for metering and telemetry; Part 3 – Assessment process for 'other telemetry systems'; WMI have submitted a proposal and followed up several times with no resolution from NRAR/DPIE-Water/DCCEEW.

C. All metering equipment is sited and installed at a place in the pipe, between the water source and the first discharge outlet. There is no flow of water into or out of the pipe, between the water source and the metering equipment.

D. The metering equipment is always operated and maintained in a proper and efficient manner. Calibration/Verification are carried out approximately each year.

Metering Calibration Certificates

Buronga Pump Station.

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173470**

Contact : David Hilton — City : Dareton — PM Task No :
Phone : 0429183619 — State : NSW — Work Order : 24.054627
Address : 5 Tapio Street — Postcode : 2717

Instrument ID	BGA MAIN	Manufacturer:	Siemens
Description	1Y Verification of BGA Main Flowmeter - ModBus address	Model:	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	Serial:	974403H280 / N1MO075045
Location	Buronga Pumps	Classification:	Critical Item
Area		Previous Inst Status:	In Service
Equipment ID	BURONGA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — Test Type : TaskList.bpl
Group Name Verification — Group Result : Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	Calibration Successful	Performed By :	Neil Zander
Finalized By :	Denise Harrison	Finalized Date :	03/07/2024
Calibration Frequency :	Annual	Next Calibration Date	02/07/2025
Amb. Temp. (DEG.C) :		Amb. Humidity (%R.H.) :	

Trescal (Australia) Pty Ltd certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Coomealla Pump Station - Pump A

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173461**

Contact : David Hilton — **City :** Dareton — **PM Task No :**
Phone : 0429183619 — **State :** NSW — **Work Order :** 24.054627
Address : 5 Tapio Street — **Postcode :** 2717

Instrument ID	**PUMP A**	**Manufacturer:**	Siemens
Description	1Y Verification of Coomealla Pumps - PUMP A	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	982003H280 / N1M9215020
Location	Coomealla Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	COOMEALLA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl
Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

Trescal (Australia) Pty Ltd certifies that the above listed Instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Coomealla Pump Station - Pump B

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173462**

Contact :	David Hilton	**City :**	Dareton	**PM Task No :**	
Phone :	0429183619	**State :**	NSW	**Work Order :**	24.054627
Address :	5 Tapio Street	**Postcode :**	2717		

Instrument ID	**PUMP B**	**Manufacturer:**	Siemens
Description	1Y Verification of Coomealla Pumps - PUMP B	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	982203H280 / N1MO025053
Location	Coomealla Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	COOMEALLA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl
Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

Trescal (Australia) Pty Ltd certifies that the above listed Instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Coomealla Pump Station - Pump C

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173463**

Contact :	David Hilton	**City :**	Dareton	**PM Task No :**	
Phone :	0429183619	**State :**	NSW	**Work Order :**	24.054627
Address :	5 Tapio Street	**Postcode :**	2717		

Instrument ID	**PUMP C**	**Manufacturer:**	Siemens
Description	1Y Verification of Coomealla Pumps - PUMP C	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	982303H280 / N1M9045205
Location	Coomealla Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	COOMEALLA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl
Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

Trescal (Australia) Pty Ltd certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Coomealla Pump Station - Pump D

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173464**

Contact :	David Hilton	**City :**	Dareton	**PM Task No :**	
Phone :	0429183619	**State :**	NSW	**Work Order :**	24.054627
Address :	5 Tapio Street	**Postcode :**	2717		

Instrument ID	**PUMP D**	**Manufacturer:**	Siemens
Description	1Y Verification of Coomealla Pumps - PUMP D	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	982503H280 / N1MO025057
Location	Coomealla Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	COOMEALLA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl
Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

Trescal (Australia) Pty Ltd certifies that the above listed Instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Coomealla Pump Station - Pump E

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173465**

Contact : David Hilton — **City :** Dareton — **PM Task No :**
Phone : 0429183619 — **State :** NSW — **Work Order :** 24.054627
Address : 5 Tapio Street — **Postcode :** 2717

Instrument ID	**PUMP E**	**Manufacturer:**	Siemens
Description	1Y Verification of Coomealla Pumps - PUMP E	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	982603H280 / N1M9045190
Location	Coomealla Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	COOMEALLA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl
Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

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Coomealla Pump Station - Pump F

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173466**

Contact :	David Hilton	**City :**	Dareton	**PM Task No :**	
Phone :	0429183619	**State :**	NSW	**Work Order :**	24.054627
Address :	5 Tapio Street	**Postcode :**	2717		

Instrument ID	**PUMP F**	**Manufacturer:**	Siemens
Description	1Y Verification of Coomealla Pumps - PUMP F	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	979503H280 / N1M9045212
Location	Coomealla Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	COOMEALLA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl

Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

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Curlwaa Pump Station – Main.

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173467**

Contact :	David Hilton	**City :**	Dareton	**PM Task No :**	
Phone :	0429183619	**State :**	NSW	**Work Order :**	24.054627
Address :	5 Tapio Street	**Postcode :**	2717		

Instrument ID	**CWA MAIN**	**Manufacturer:**	Siemens
Description	1Y Verification of Curlwaa Pumps - CWA MAIN	**Model:**	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	**Serial:**	918903H480 / N1MO09508
Location	Curlwaa Pumps	**Classification:**	Critical Item
Area		**Previous Inst Status:**	In Service
Equipment ID	CURLWAA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — **Test Type :** TaskList.bpl
Group Name Verification — **Group Result :** Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	**Calibration Successful**	**Performed By :**	Neil Zander
Finalized By :	Denise Harrison	**Finalized Date :**	03/07/2024
Calibration Frequency :	Annual	**Next Calibration Date**	02/07/2025
Amb. Temp. (DEG.C) :		**Amb. Humidity (%R.H.) :**	

Trescal (Australia) Pty Ltd certifies that the above listed Instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Curlwaa Pump Station - By-pass

Trescal

Trescal (Australia) Pty Ltd
16 William St
Mile End South, SA 5031

INSTRUMENT CALIBRATION REPORT

Western Murray Irrigation Limited — **Calibration ID: 173468**

Contact :	David Hilton	City :	Dareton	PM Task No :	
Phone :	0429183619	State :	NSW	Work Order :	24.054627
Address :	5 Tapio Street	Postcode :	2717		

Instrument ID	CWA BYPASS	Manufacturer:	Siemens
Description	1Y Verification of Curlwaa Pumps - CWA Bypass - ModBus address	Model:	MAG5100W with MAG 6000 CT
Calibrated	02/Jul/2024	Serial:	978303H280 / N1M9045200
Location	Curlwaa Pumps	Classification:	Critical Item
Area		Previous Inst Status:	In Service
Equipment ID	CURLWAA PUMPS		

Calibration Data

Origin of Stated Accuracy	Manufacturer Specification
Calibration Type:	In Service
Document ID:	VERIFICATION

Group # 1 — Test Type : TaskList.bpl
Group Name Verification — Group Result : Pass

Step #	Step	Result	Comments
1	Converter Test (Enter Pass / Fail in Comment)	Completed	Pass
2	Sensor Insulation (Enter Pass / Fail in Comment)	Completed	Pass
3	Sensor Magnetism (Enter Pass / Fail in Comment)	Completed	Pass
4	Enter WO# in Notes on Verification Report	Completed	

Test Instruments Used During the Calibration:

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	Last Cal Date	Next Cal Date
STIN313	Seimens Magflo Verificator	Siemens	083F5060	00519N089	21/09/2023	21/09/2024

Calibration Result:	Calibration Successful	Performed By :	Neil Zander
Finalized By :	Denise Harrison	Finalized Date :	03/07/2024
Calibration Frequency :	Annual	Next Calibration Date	02/07/2025
Amb. Temp. (DEG.C) :		Amb. Humidity (%R.H.) :	

Trescal (Australia) Pty Ltd certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This Report of Calibration applies only to the item being calibrated, identified above and shall not be reproduced, except in full, unless written permission for an approved abstract is obtained from Trescal (Australia) Pty Ltd. The quality systems of Trescal (Australia) Pty Ltd are in compliance with ISO9001. Measurements in this calibration are traceable to the International System of Units (SI) via national metrology institutes that are signatories to the CIPM Mutual Recognition Agreement.

Water Management Works

MW3192-00001
Government-provided metering equipment are not installed on any of WMI water supply works authorised by this approval, any water taken using the works is metered as detailed at MW2452-00001 above.

MW0491-00001
All works authorised by this approval remain in use; there are presently no plans to decommission the works.

Monitoring and Recording

MW2338-00001
The metered usage is recorded electronically at least every 15 minutes and stored on WMI servers; historical data can be accessed back at least 10 years. Live, end of day and end of month meter readings are also available on the WWW: http://orderwater.westernmurray.com.au/PumpTotalisers_sql.asp .

MW2336-00001
The purpose for which water is taken is based on the WMI Crop Report. It is not feasible to create a record each time water is used for type, area, dates of planting and harvesting of each individual owner's crop.

MW2337-00001
The following information is recorded electronically for each 15-minute period that all water is taken:

A. Time, date, volume of water, start and end times and flowrate.
B. The access licence number under which the water is taken; also, our order system records individual customer orders; each customer meter is read each quarter.
C. The approval number under which the water is taken.
D. Volume of water taken for domestic consumption and/or stock watering is not recorded separately; this is recorded on customer metered outlets.

MW0482-00001
A water meter is installed on all water supply works authorised by this approval; the meter reading is recorded at least every 15 minutes.

MW2339-00001
All works are metered, the WaterNSW data loggers were removed off all works approvals by WaterNSW (or their representatives) in 22/23. The metered records are sent directly to WaterNSW every 15 minutes and daily to MDBA via telemetry; Live data is available at https://orderwater.westernmurray.com.au/PumpTotalisers_sql.asp ; Historical records are also recorded on WMI servers. Western Murray Irrigation are still pursuing options with NRAR/DCCEEW regarding connection to DAS (Eagle-Eye), utilising our existing telemetry/business systems.

Reporting

MW0051-00001
WMI are not aware any breaches of the conditions of this approval.

Other Conditions - Monitoring and Recording

DK5891-00004
Monitoring and Reporting has been carried out as specified in the 'Western Murray Irrigation Limited Monitoring and Reporting Plan for 60CA581273', dated 16 March 2018, as below.

WMIL – MONITORING AND REPORTING PLAN FOR COMBINED APPROVAL 60CA581273

Schedule 1 – Requirements

The Approval Holder of 60CA 581273 has provided all data in the format detailed in each specific requirement of the Monitoring and Reporting Plan, unless otherwise authorised by NRAR. The data has been submitted to the nominated officer within NRAR.

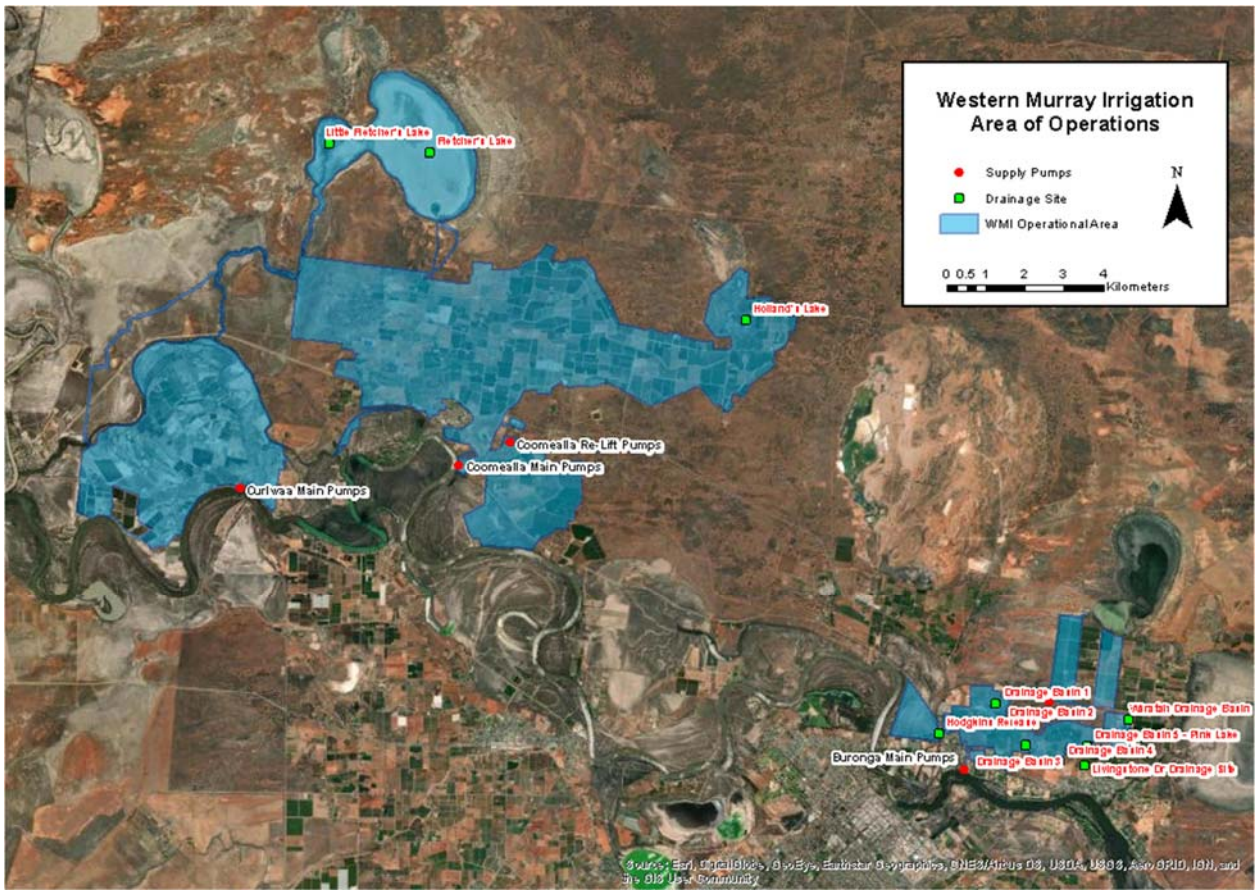
Reporting and Notification Requirements:

Submission of an Annual Compliance Report.

Condition 1
The Approval Holder has, by the 31st of October each year, submitted to the Minister an electronic copy of an Annual Compliance Report for the preceding water year (from 1 July to 30 June).

Condition 2
Following are plans of Western Murray Irrigation Limited Infrastructure for the year 2024/25.

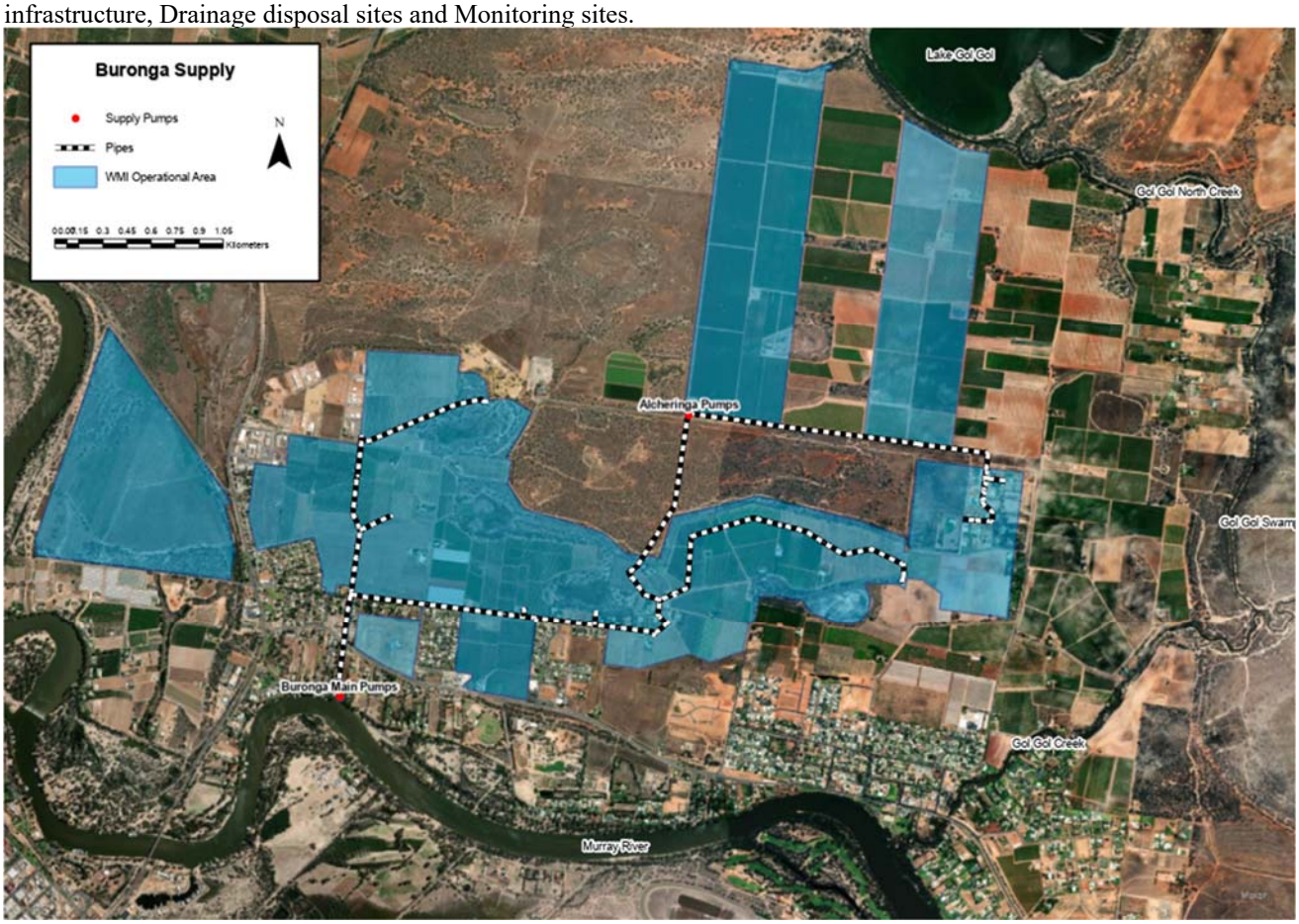
Condition 2.1
Area of Operations, existing on 30 June 2025, showing, to the Minister's satisfaction, the boundary of all included land and including any amendments made by the inclusion and exclusion of lands in accordance with sections 131 and 135 of the *WMA 2000*, and showing the boundary of any other land water is suppled to that are not included in the Area of Operations. Zero changes to area of operations in financial year 2024/25; Buronga will show significant losses to operational area in the following 1-3 years as urbanisation takes over irrigable land.



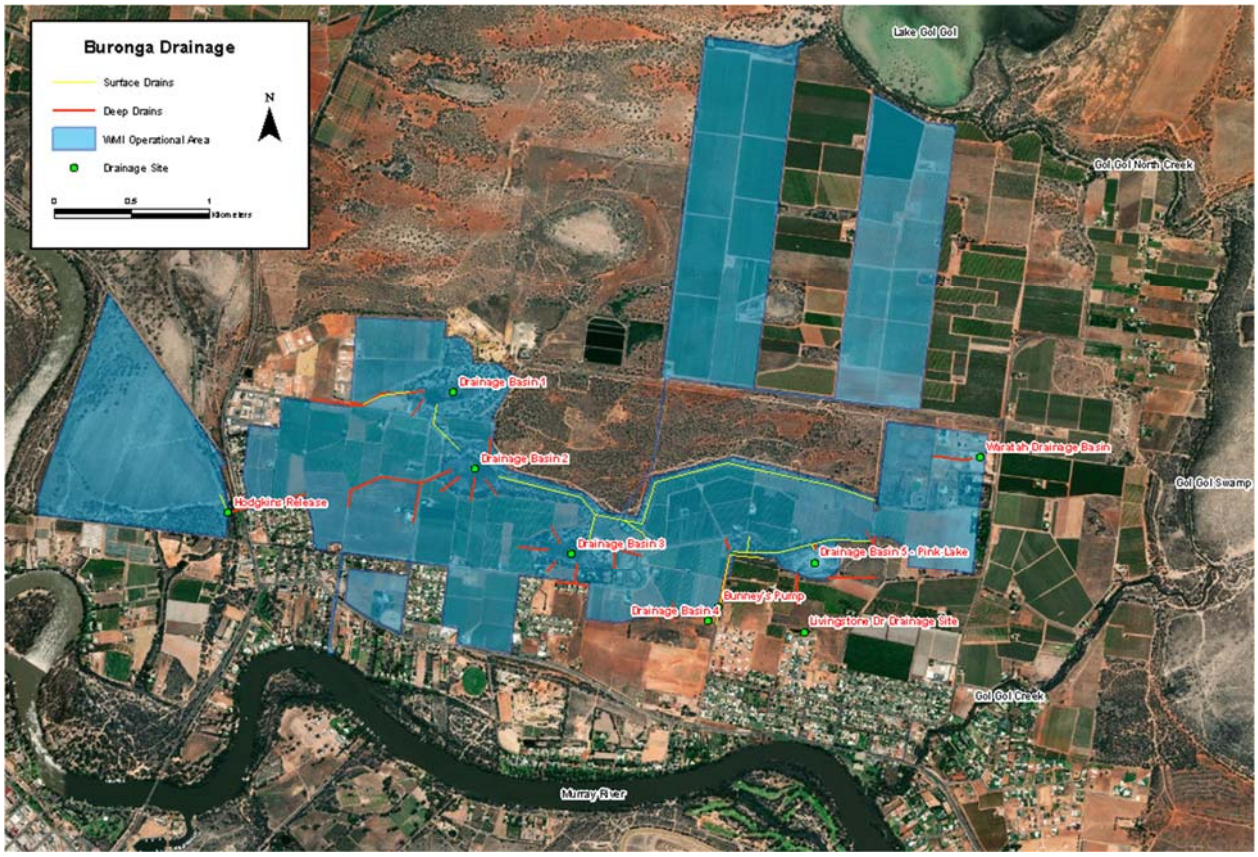
WMI Operational Area

Condition 2.2

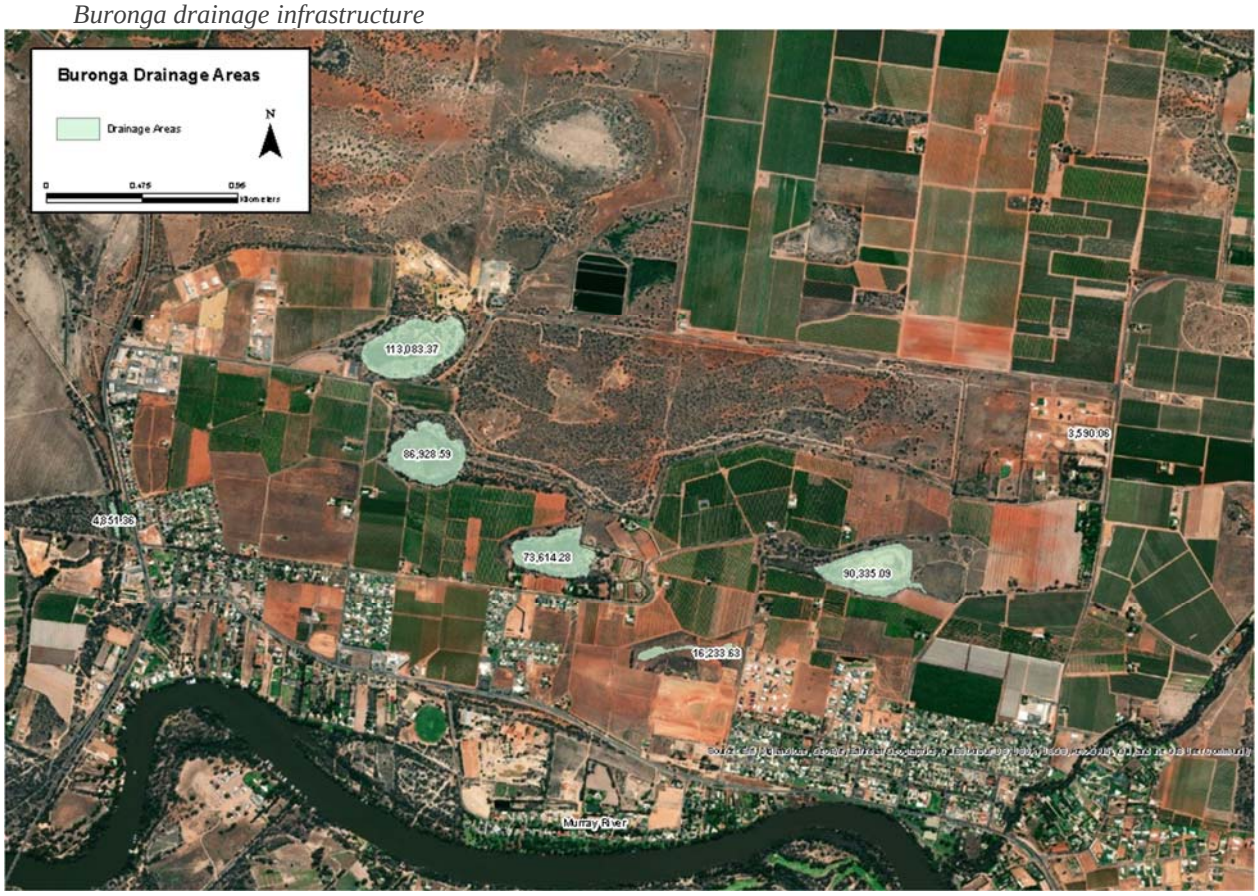
Plans showing current location of Major water courses, Authorised works and supply infrastructure, Drainage infrastructure, Drainage disposal sites and Monitoring sites.



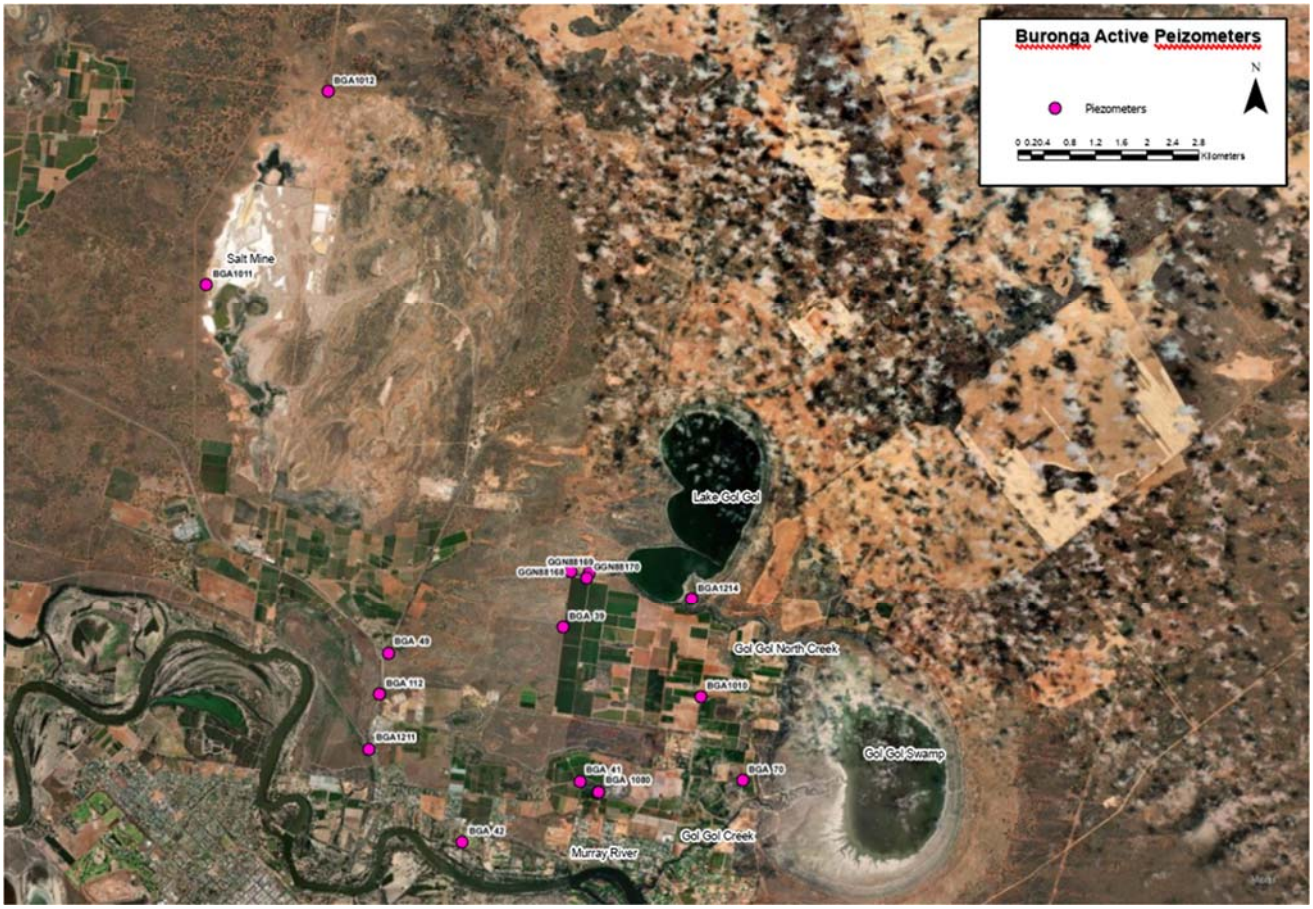
W01 – Buronga supply. Area of operations.



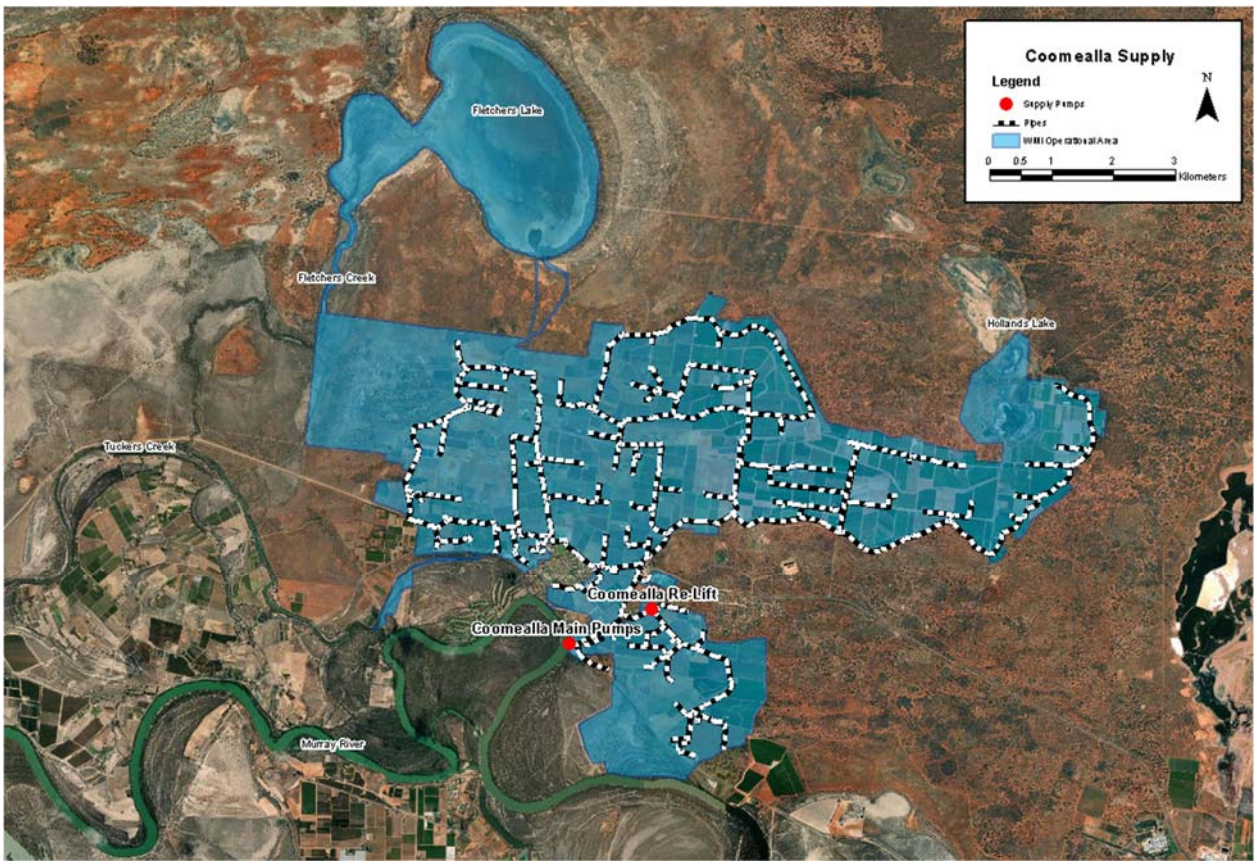
Buronga drainage infrastructure



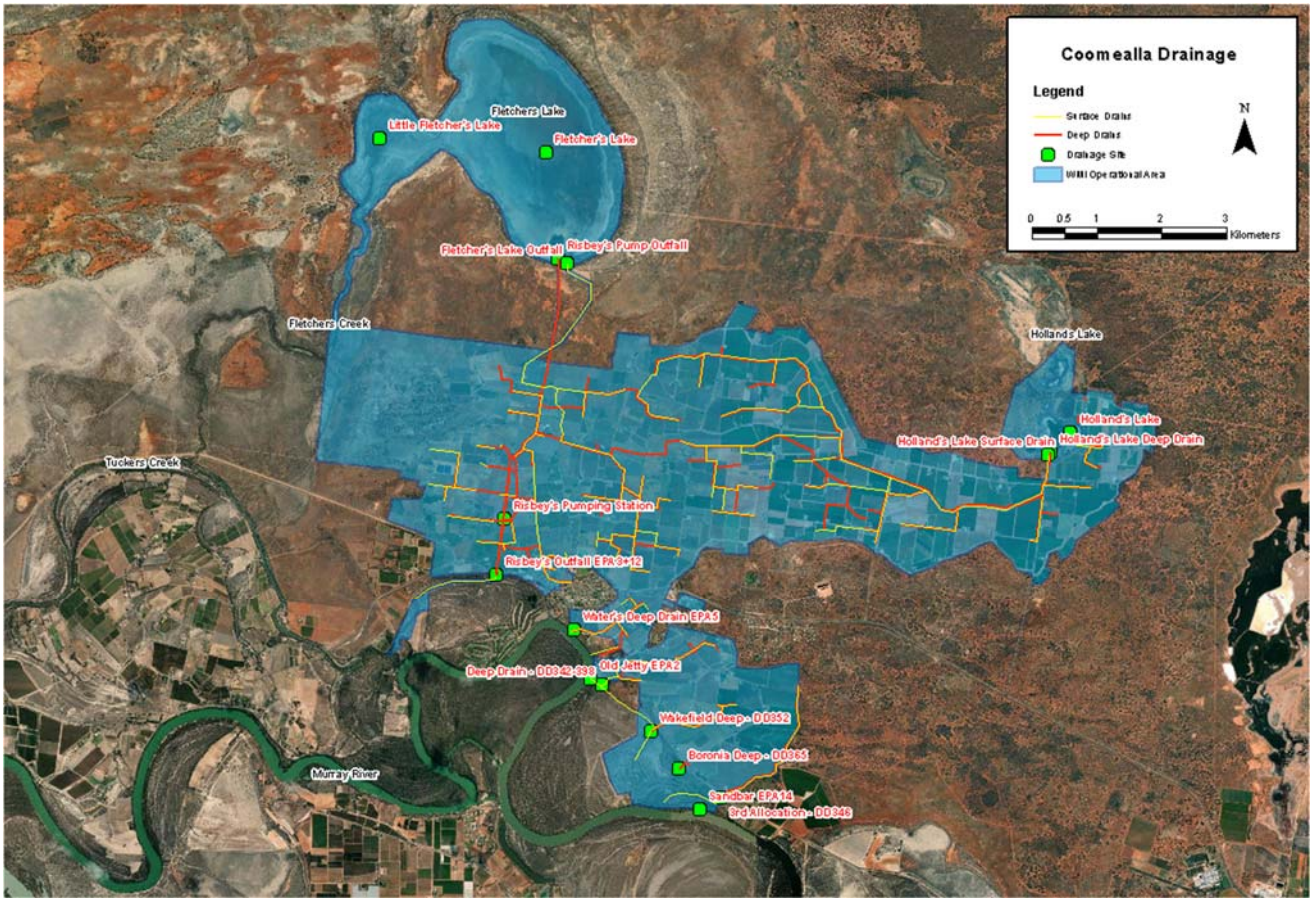
Buronga - Extent of area (square metres) that are temporarily inundated to store drainage and storm water (evaporation basins).



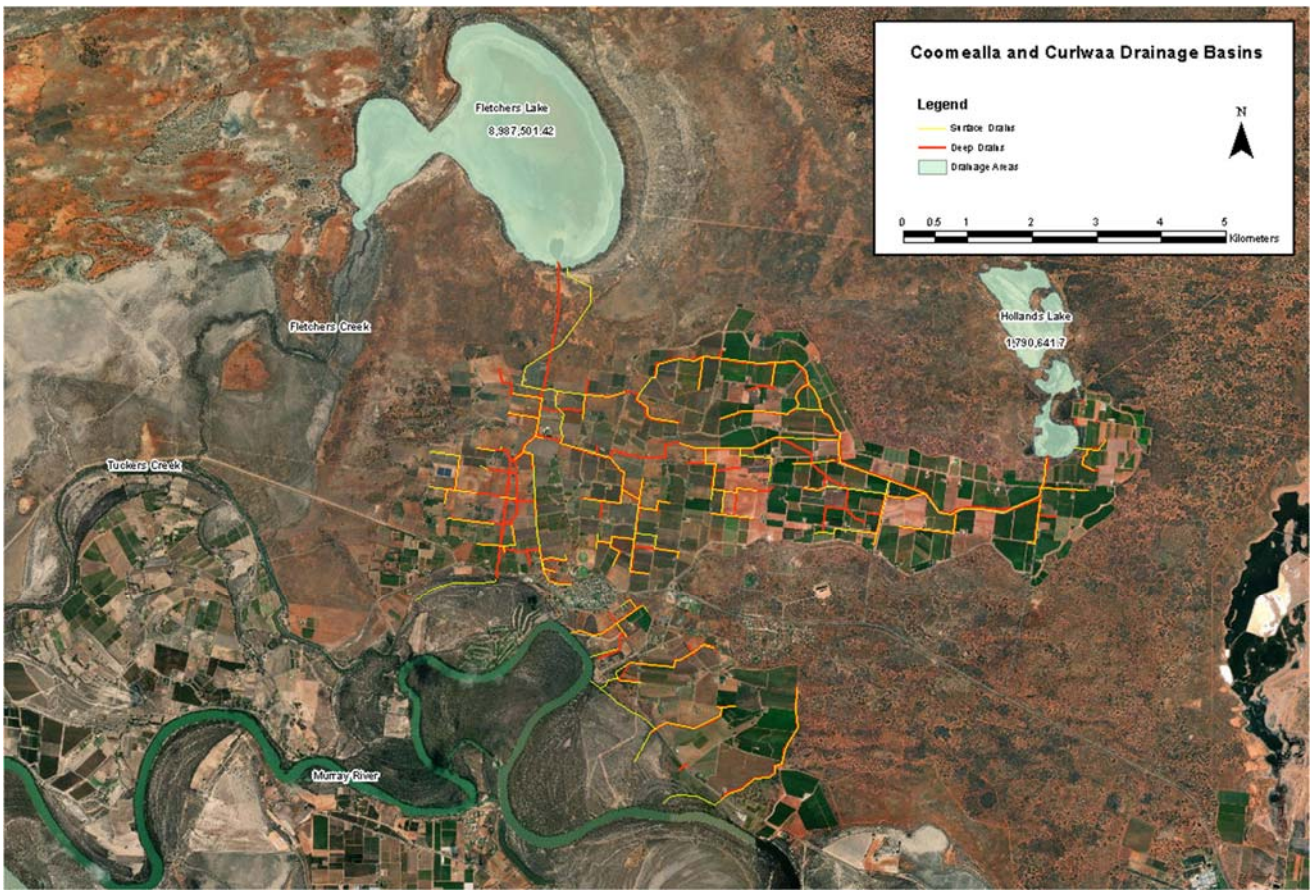
Buronga Active Piezometers



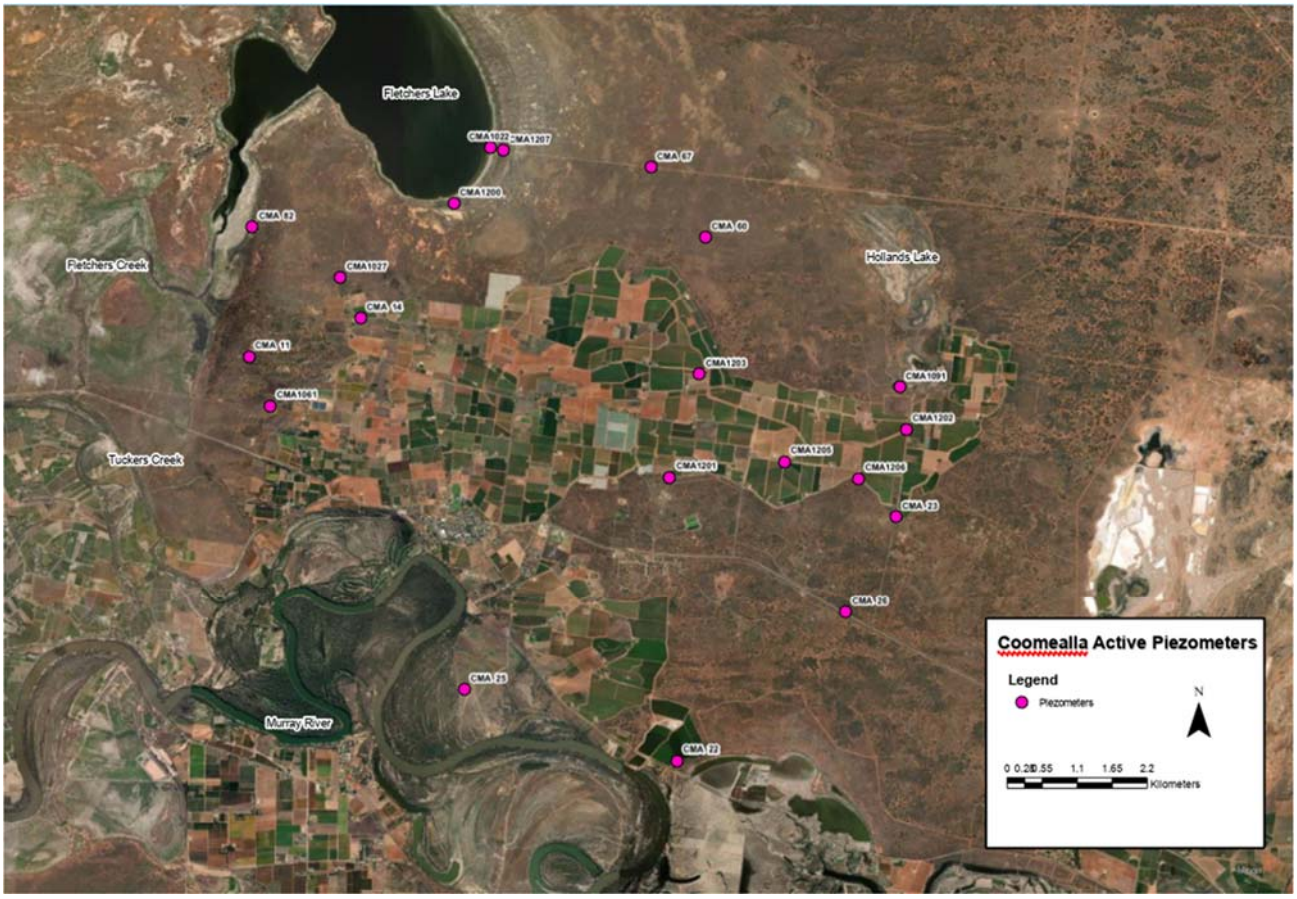
W02 - Coomealla supply.



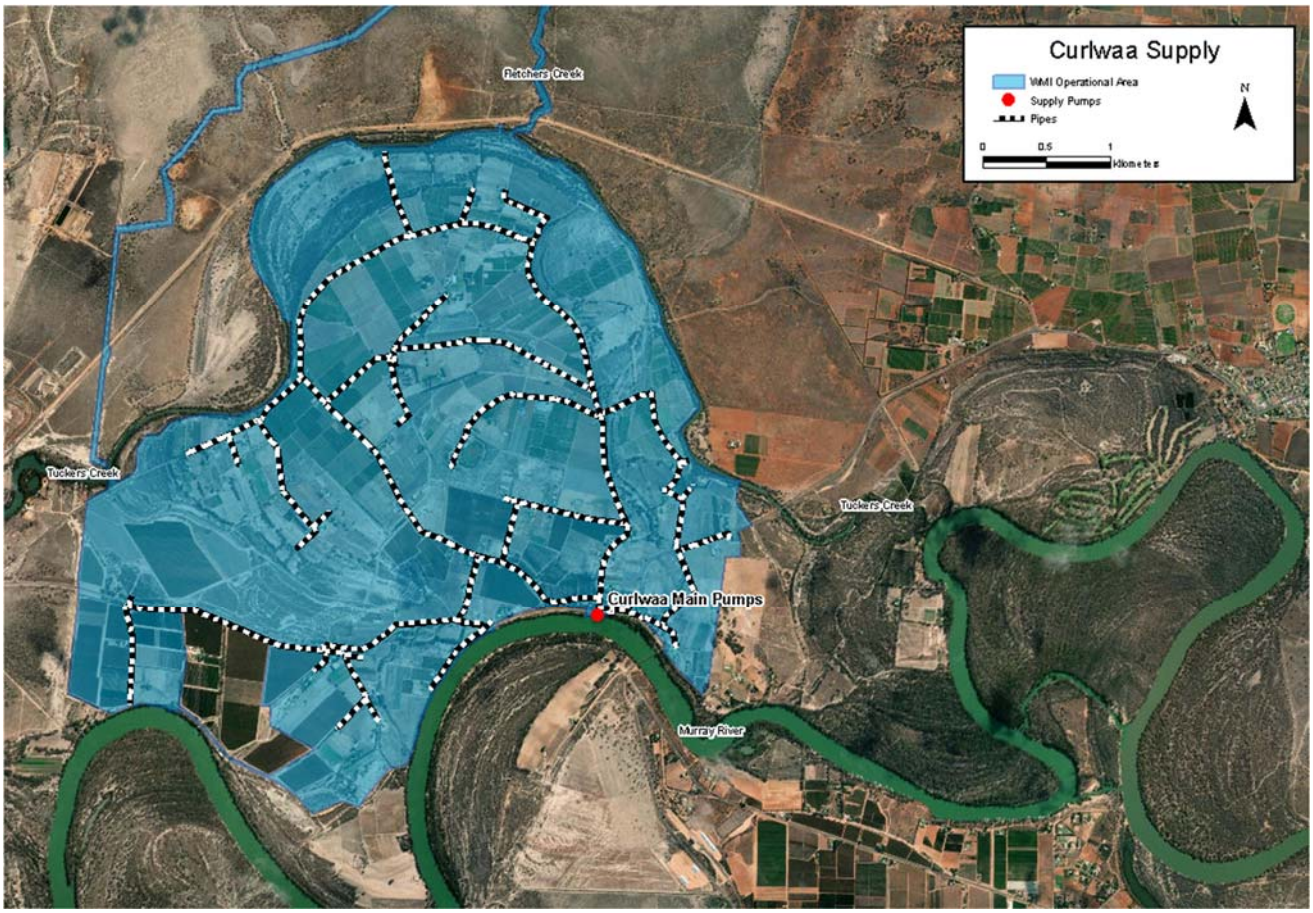
Coomealla Drainage Infrastructure



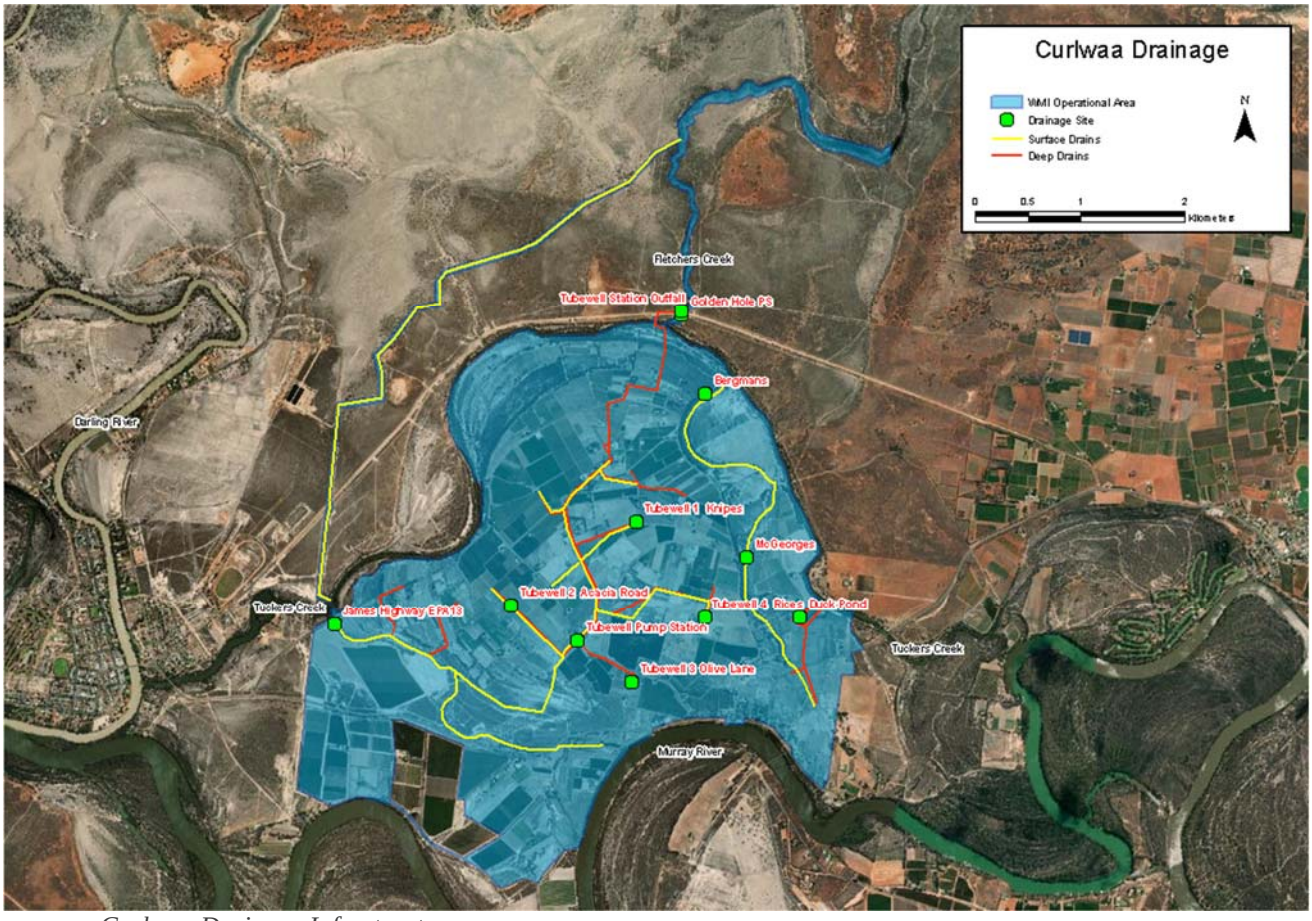
Coomealla and Curlwaa - Extent of area (square metres) that are temporarily inundated to store drainage and storm water (evaporation basins).



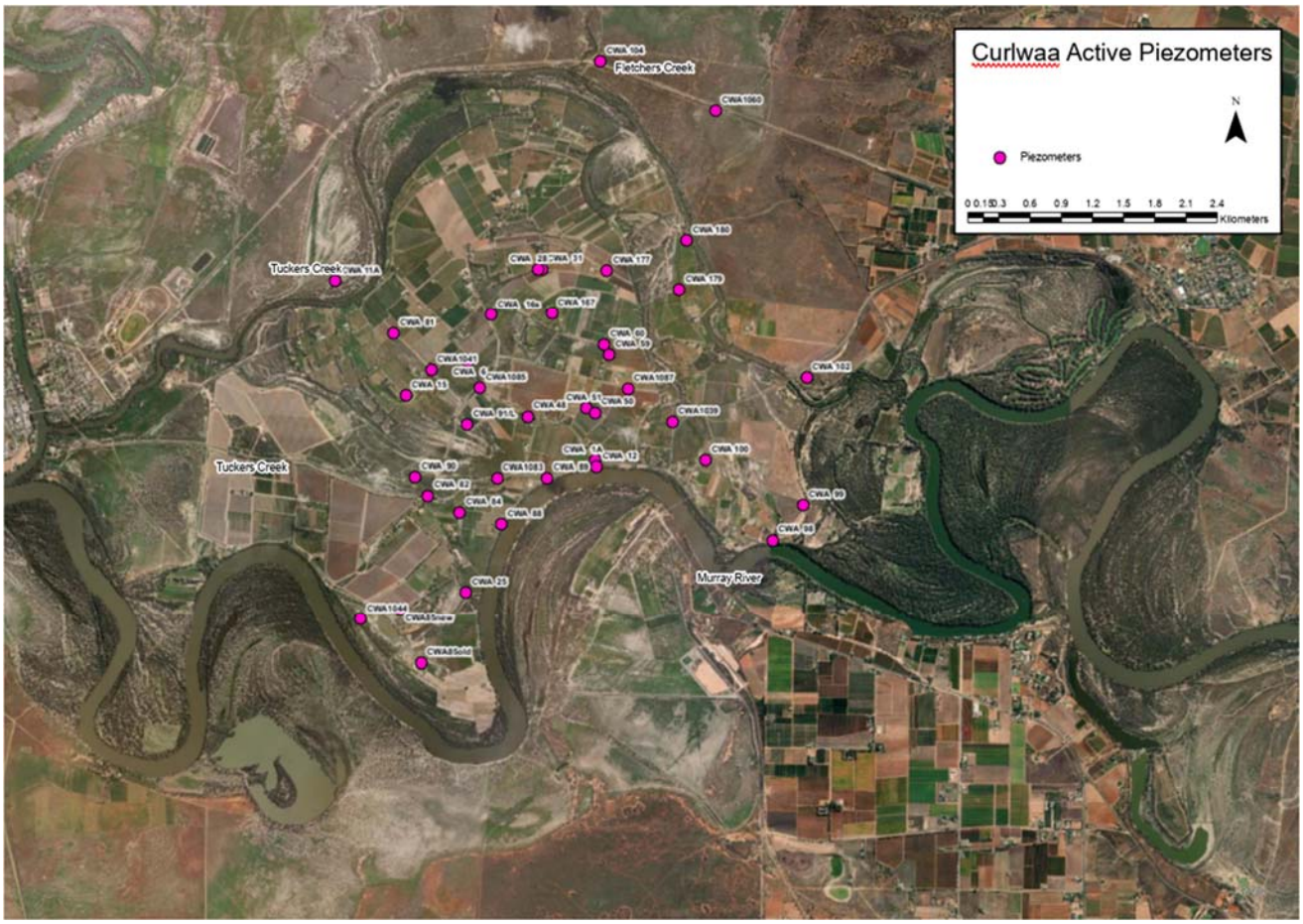
Coomealla Piezometers



W03 - Curlwaa pumping plant and supply infrastructure



Curlwaa Drainage Infrastructure



Curlwaa piezometers

Statement of Compliance

Condition 2.3

WMI is in compliance of Approval number 60CA581273.

Groundwater monitoring results showing destroyed, dry, inactive, and active piezometers are included in this report.

The Saltwater Interception Scheme (SIS) is a government project and has operated since the late 1960's under various configurations; maintained by government until 1995 and WMI thereafter. NRAR have informed WMI on 18August2021 there is a requirement for a separate works approval and WAL to operate the SIS. WMI has requested further information from NRAR investigating why there is a requirement for WMI to pursue a separate works approval and WAL for a SIS, this is a government project and is already a part of our combined Water Supply Work Approval and Water Usage approval (e-mail dated 29Aug2023 – Attached).

WMI has previously attached a consultant's groundwater hydrogeologist report in October 2020, this is a long-term audit of our groundwater control and monitoring. This has been used to establish the best course of action for destroyed piezometers. Extract from report:

> ***Recommendations for Groundwater Monitoring***
> *It is recommended that WMI continue monitoring within their operating network to comply with conditions of the water use approval, maintain a consistent data set, and ensure the collection of time series salinity data (which is not routinely collected as part of state monitoring. For the WMI monitoring program going forward the following recommendations may be adopted to confirm and or improve confidence in monitoring data quality. This includes:*

■ Confirm correct bore location details by taking GPS co-ordinates at each site comparing the results to the existing WMI records and NSW government records to identify the correct dataset.

Complete (extract from GIS)

■ Measure total bore depth during the next annual monitoring round and comparison of this data to known construction details to confirm that monitoring bores remain open to the aquifer.

Complete

■ Exclude dry bores from ongoing monitoring where the 2019-2020 monitoring data indicates the screen is mostly or completely blocked.

Not yet excluded, screen/bore cleaning is ongoing, some bore blockages have been removed, and are now indicating correctly.

■ Survey the natural surface elevation and reference elevation of bores in the current network where this data is unavailable (10 bores) so that depth to water measurements can be compared to river levels and changes in groundwater gradients can be assessed.

Not started.

■ It is recommended that a selection of bores in the WMI network (20%) are surveyed. This data can be compared to the existing data to assess the accuracy of reference elevation data as most sites have no documented survey methodology. Additional survey may then be required to improve confidence in groundwater elevations and the assessment of groundwater trends.

Not started.

Several bores within the WMI networks have been destroyed or are listed as dry, despite this the existing monitoring data provides a relatively good spatial coverage of the irrigation footprint to identify the potential impacts of irrigation and drainage. However, it is recommended that the network distribution be reviewed following the collection of data listed above, particularly confirmation of correct bore locations and measurement of total bore depth. This data can then be used to identify gaps in the current monitoring network and determine if existing bores not currently monitored by WMI can be included in the annual monitoring round or if replacement bores are required where there are gaps. It is then recommended that a groundwater monitoring plan be developed and presented to the regulator to provide an agreed monitoring strategy going forward. This should also include an update of the agreed set of reporting outputs or performance indicators, to be included in the annual compliance report.

To be completed after Surveys.

It is also recommended that WMI continue the collection of 3 yearly crop report data to capture changes in irrigation methods, irrigated area, and crops. This is a valuable data set and can be used to support the analysis of groundwater trends.

Recommendations for SIS Operations

The review of the operational and monitoring data indicates that the Curlwaa SIS does not need to operate under current conditions and there is currently no need to refurbish tubewell 1. However, groundwater monitoring data should continue to be collected annually and reviewed against trigger levels to provide a safeguard if groundwater levels begin to rise. Groundwater levels should be reviewed in the context of rainfall and river level data as hydrograph analysis shows that the floodplain aquifer responds to flood and rainfall events which may result in rises in groundwater levels that are only short term. Irrigation supply and method data should also be reviewed with groundwater trends. Previous communications with Department of Natural Resources by WMI have suggested a trigger level of 31.8mAHD (i.e., 1m above pool level) as a trigger to reinstate SIS operation. This trigger level is considered reasonable however it is also proposed that if groundwater levels rise to 31.3 MAHD (0.5m above pool level) this should trigger a review of SIS operations and the development of a plan to reinstate pumping. This is to prevent a significant time lag for reinstating groundwater pumping if the 31.8mAHD level is reached.

All tubewells are operational after successful rehabilitation; they have been running since November 2022 to date; currently run the tubewells once a month for 5 days. Tubewell station is now fully operational, all deep drainage water is now diverted before James Highway pump station and discharged at Fletchers Creek.

Condition 2.4

Data from all monitoring required by this Monitoring and Reporting Plan has been supplied in electronic format, including:

- PDF of this report.
- Original Excel spreadsheets used for calculations and presentations within this report.
- Other original documents forming part of this report.

Condition 2.5
Condition 2.5 has been broken down into Salinity, Discharge, Groundwater, Extraction and Water use, monitoring data.

Condition 2.5-Salinity
There have been no significant salt load discharges and no changes to any works or practices that could lead to increased impact trends on the River Murray. Average EC from the river for this year is 179µS, close to the 5-year average of 174 µS/cm; 2024/25 was the highest volume pumped in 20 years, therefore the tonnes of salt is also high.

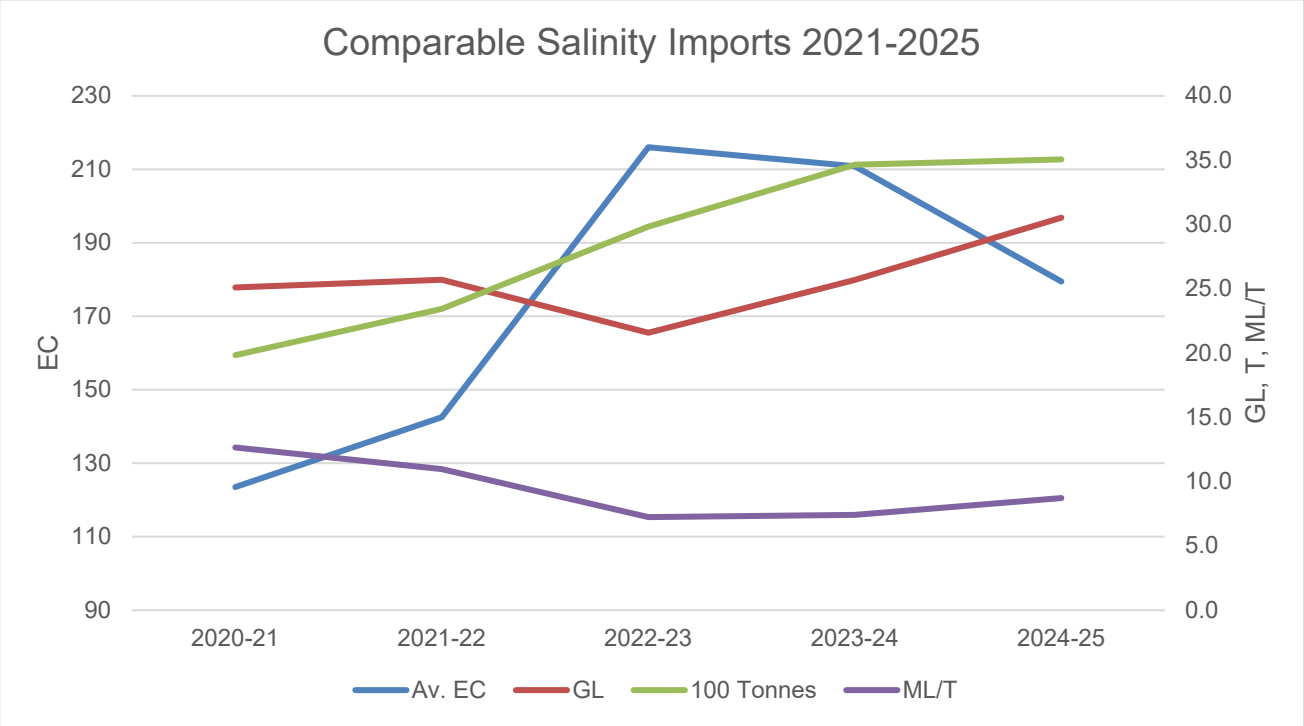
a) Comparable salinity import data for at least 2 years (5 years):

Total Salt Imports (Tonnes)						
Month	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**	***5 Yr RA***
July	29	14	24	18	31	23
August	22	42	30	25	143	52
September	86	93	25	153	296	131
October	94	152	32	194	339	162
November	292	142	124	245	327	226
December	494	447	509	440	436	465
January	328	583	685	549	708	571
February	262	455	633	721	543	523
March	175	268	549	716	400	422
April	122	107	200	191	155	155
May	61	20	135	122	81	84
June	19	21	37	91	45	43
Year to Date	**1,984**	**2,343**	**2,982**	**3,465**	**3,506**	**2,856**
Total	**1,984**	**2,343**	**2,982**	**3,465**	**3,506**	**2,856**
Average EC	*124*	*142*	*216*	*211*	*179*	*174*
O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Daily Flow s ALL Stations 2024-25.xlsx]Da					,	

The chart shows seasonal water usage affecting salt imports for each month; For annual trends, see para 2.5 Salinity (b).

b) Comparable Salinity import data for a year being at least 5 years prior:

Annual	2020-21	2021-22	2022-23	2023-24	2024-25	5 Yr RA
Av. EC	124	142	216	211	179	174
ML	25,099	25,691	21,572	25,678	30,528	25,714
Tonnes	1,984	2,343	2,982	3,465	3,506	2,856
ML/T	13	11	7	7	9	9



This chart shows the effect of EC on annual salt imports.

(c There are no new targets identified, the salt imports are controlled purely by the salt content of the river and quantity of water extracted. The annual EC average has been calculated by daily salt imported in tonnes /daily water pumped in GL/0.64; this gives a true average EC of 'imported' water. This is an identified benchmark although we have no control over this.

d) Supply this year is well above the 5-year average (20-year high), EC is declining to a lower range, salt imports have again increased due to high volume of water pumped.

Condition 2.5-Discharge

a) Discharges from all drainage outfalls for the 2024/25 year:

Buronga			Coomealla			Curlwaa			Total		
Total Drainage			Total Drainage			Total Drainage			Total Drainage		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
1.41	1,223	1.11	694.69	2,377	1056.68	19.40	4,182	51.91	715.50	2593.71	1109.69
Drainage Basins			Drainage Basins			Drainage Basins			Drainage Basins		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
1.41	1,223	1.11	507.37	2,269	736.92	19.40	4,182	51.91	528.18	2557.96	789.94
Flood Plains			Flood Plains			Flood Plains			Flood Plains		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
0.00	NA	0.00	159.20	2,605	265.41	0.00	NA	0.00	159.20	2604.98	265.41
Murray River			Murray River			Murray River			Murray River		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
0.00	NA	0.00	28.12	3,019	54.35	0.00	NA	0.00	28.12	3019.34	54.35

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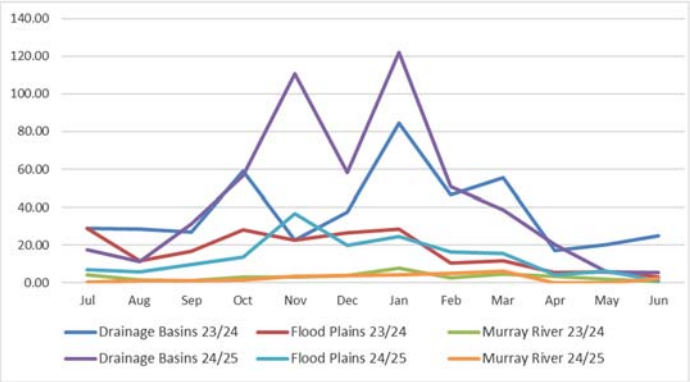
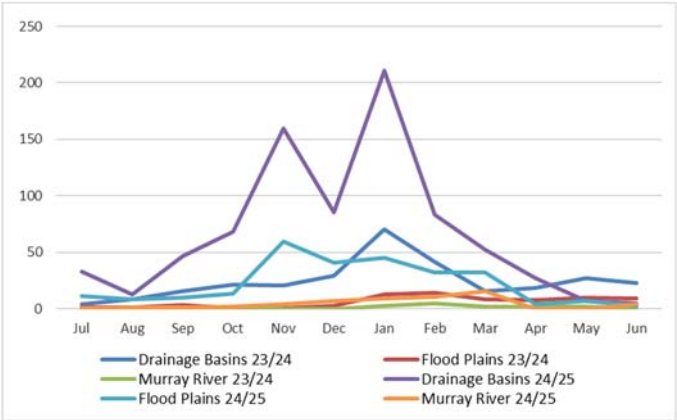
Drainage water (ML) - Comparable data for last 2 years						
	Drainage Basins 23/24	Flood Plains 23/24	Murray River 23/24	Drainage Basins 24/25	Flood Plains 24/25	Murray River 24/25
Jul	28.98	28.65	4.03	17.62	6.91	0.29
Aug	28.26	11.42	1.38	11.20	5.61	0.96
Sep	26.82	16.60	0.93	31.33	9.43	1.11
Oct	58.99	27.95	2.79	56.57	13.47	1.54
Nov	22.63	22.52	2.80	110.63	36.53	3.17
Dec	37.50	26.37	3.89	58.41	19.69	3.84
Jan	84.30	28.44	7.66	122.12	24.52	4.09
Feb	46.57	10.25	2.68	50.97	16.29	4.94
Mar	55.36	11.49	4.50	38.50	15.36	5.96
Apr	16.89	5.29	3.18	20.01	4.03	0.00
May	20.22	5.52	1.65	5.60	6.28	0.00
Jun	24.77	3.04	0.42	5.23	1.07	2.22

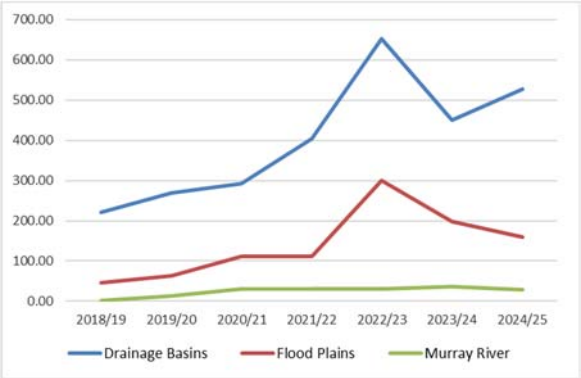


Salt Exports (T) - Comparable data for last 2 years						
	Drainage Basins 23/24	Flood Plains 23/24	Murray River 23/24	Drainage Basins 24/25	Flood Plains 24/25	Murray River 24/25
Jul	38.23	27.35	4.59	32.86	11.37	0.50
Aug	72.22	23.85	1.97	12.65	8.55	1.13
Sep	58.94	49.61	1.68	46.91	9.83	1.14
Oct	133.86	170.65	5.87	68.00	13.29	1.76
Nov	55.95	168.59	4.41	159.37	59.38	4.30
Dec	73.70	167.67	9.72	85.16	40.53	6.67
Jan	138.10	89.81	19.22	210.77	45.02	8.91
Feb	77.56	22.66	5.99	83.49	32.38	10.64
Mar	87.32	21.81	8.65	52.31	31.90	15.28
Apr	23.73	6.47	5.23	26.92	4.14	0.00
May	23.14	5.19	1.72	6.88	6.63	0.00
Jun	30.20	3.50	0.56	4.61	2.40	4.01

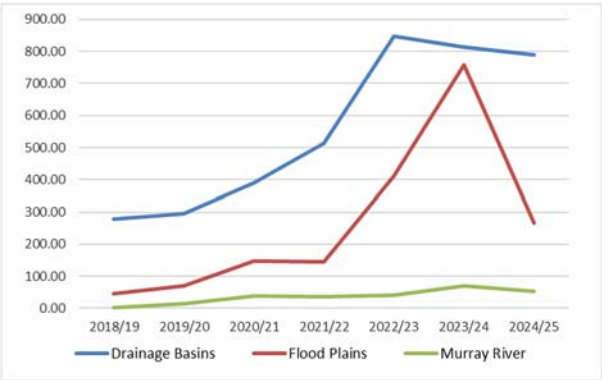


b) Comparable discharge data for a year being at least 5 years prior:

Drainage Water (ML) over 7 years			
	Drainage Basins	Flood Plains	Murray River
2018/19	221.99	46.33	1.81
2019/20	268.59	63.23	13.27
2020/21	293.28	111.00	30.56
2021/22	403.48	110.66	31.23
2022/23	652.80	300.44	29.93
2023/24	451.30	197.53	35.91
2024/25	528.18	159.20	28.12



Salt Exports (T) over 7 years			
	Drainage Basins	Flood Plains	Murray River
2018/19	277.27	46.96	2.09
2019/20	295.00	70.44	14.42
2020/21	389.58	148.48	38.56
2021/22	512.94	145.64	37.06
2022/23	847.96	412.69	40.61
2023/24	812.96	757.16	69.62
2024/25	789.94	265.41	54.35



c) The majority of the drainage water trend follows the irrigation demand and to a lesser degree rainfall events. 2024/25 irrigation supply was 123% of the 5-year average; Rainfall was 196.4mm, below the 50-year average of 278.2mm, and less than last year. There was a decrease in flood plains and Murray River drainage water and an increase in drainage to the basins, there have been repairs post flood that diverts this water to the basins. Salinity in supplied water has decreased and drainage water has been higher than normal. Since 2019, WMI have used pulsed hydrogen peroxide dosing, currently at 4 hours a day at 5ppm at all our extraction sites, this is increased up to 24/7 depending on river water quality and demand; This is to control bryozoan growths in the pipeline, aimed at improved water quality at customer outlets; Customers have generally noticed their on-farm filters have been running for longer between backflushes, this has reduced the quantity of backflush water returned to the surface drain system; although when river water quality is bad, peroxide dosing cannot dissolve organic matter in the pipeline.

d) Salt exported follows a similar pattern to drainage water throughout the year; Long term change from dominant furrow irrigation in 1997 to dominant drip irrigation in 2025 has reduced drainage water from 4848ML in 1998/99 to 715ML in 2024/25; exported salt in 1998/99 was 6,538 tonnes, while 2024/25 was 1,109 tonnes. If salt exports are compared against salt imports, it appears the imported salt is being partially retained on irrigated land; sustained rainfall may control the salinity to some extent, plus the ground water may return to the river/basins/floodplains through unmetered courses.

- Individual salinity and salt load of schedule 1 extraction sites is continued at condition 2.14.
- Individual salinity and salt loads of attachment 1 discharge sites is found at condition 2.15.
- A simple salt balance report is found at condition 2.16.

Condition 2.5-Groundwater

The Curlwaa salt interception scheme is 100% operational, X4 tubewell pumps discharge into the deep drainage system; the deep drainage water is collected at the Tubewell Pump Station, this is pumped north in a sealed pipeline and discharges at Fletchers Creek, then it runs by gravity along the natural creek bed to Fletchers Lake drainage basin.
The tubewell pumps are run about once a month, to ensure their serviceability.

> *Recommendations for SIS Operations*
> *The review of the operational and monitoring data indicates that the Curlwaa SIS does not need to operate under current conditions and there is currently no need to refurbish tubewell 1. However, groundwater monitoring data should continue to be collected annually and reviewed against trigger levels to provide a safeguard if groundwater levels begin to rise. Groundwater levels should be reviewed in the context of rainfall and river level data as hydrograph analysis shows that the floodplain aquifer responds to flood and rainfall events which may result in rises in groundwater levels that are only short term. Irrigation supply and method data should also be reviewed with groundwater trends. Previous communications with Department of Natural Resources by WMI have suggested a trigger level of 31.8mAHD (i.e., 1m above pool level) as a trigger to reinstate SIS operation. This trigger level is considered reasonable however it is also proposed that if groundwater levels rise to 31.3 MAHD (0.5m above pool level) this should trigger a review of SIS operations and the development of a plan to reinstate pumping. This is to prevent a significant time lag for reinstating groundwater pumping if the 31.8mAHD level is reached.*
> Western Murray Irrigation | 30 October 2020
> Groundwater Monitoring and Salt Interception Scheme Review Page 4

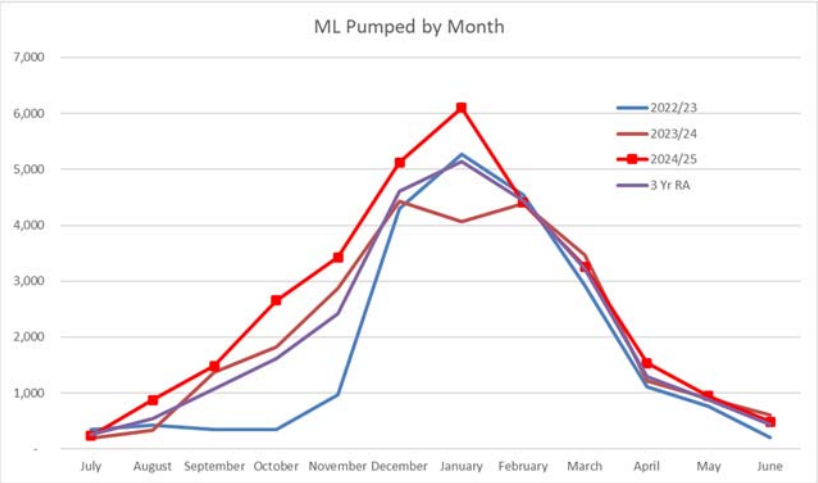
Full details of groundwater at Condition 2.17.

Condition 2.5-Extraction

a) Comparable extraction data (ML) for at least 2 previous years (3 years):

TOTAL				
2022/23	**2023/24**	**2024/25**	***3 Yr RA***	**%**
351	186	233	*257*	91%
431	336	874	*547*	160%
353	1,369	1,484	*1,069*	139%
349	1,830	2,654	*1,611*	165%
973	2,876	3,424	*2,424*	141%
4,292	4,424	5,122	*4,612*	111%
5,274	4,060	6,104	*5,146*	119%
4,542	4,393	4,405	*4,447*	99%
2,929	3,474	3,260	*3,221*	101%
1,109	1,219	1,534	*1,287*	119%
762	906	949	*872*	109%
208	605	484	*432*	112%
21,572	**25,678**	**30,528**	**25,926**	**118%**
21,572	**25,678**	**30,528**	**25,926**	

O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Supply 2024-25 YTD.xlsx]Summary

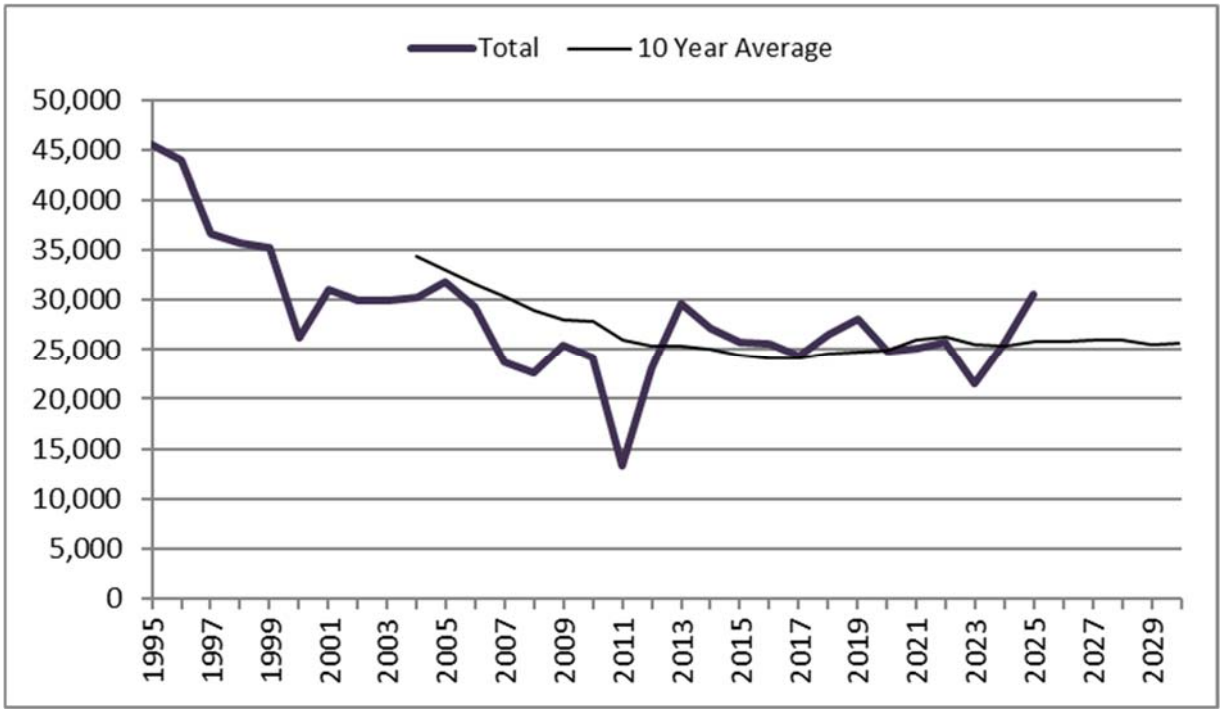


2024/25 extraction (ML) was 18% above the 3-year average (20-year high), Rainfall was 196.4mm, 29% below 50-year average.

b) Comparable extraction data for a year being at least five years (10 years):

Jun-30	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Buronga	3,289	2,816	2,906	2,892	3,248	3,542	2,338	2,578	2,597	1,969	2,500	2,638
Coomealla	19,319	18,596	18,376	17,751	19,266	20,584	18,871	19,269	19,496	16,625	19,927	24,049
Curlwaa	4,534	4,352	4,353	3,660	4,027	3,943	3,607	3,252	3,597	2,976	3,251	3,841
Total	27,142	25,764	25,635	24,303	26,541	28,069	24,816	25,099	25,691	21,571	25,678	30,528
O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Supply 2024-25 YTD.xlsx]Long term totals from 95												

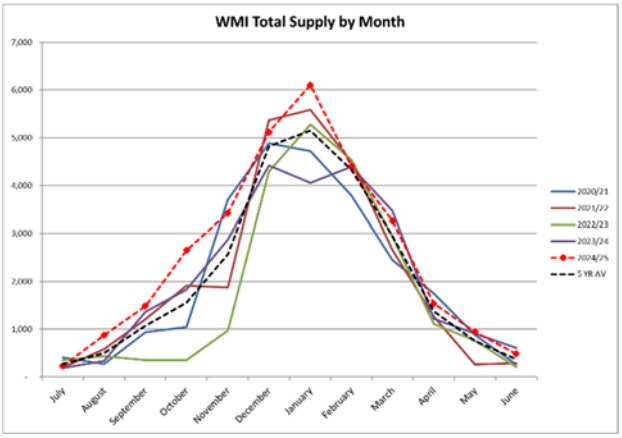
Long-term annual extraction:



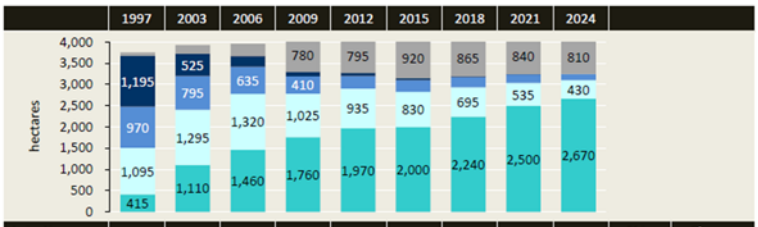
Monthly extraction over the past 5 years:

Total WMI Diversions						
Month	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	***5 YR AV***
July	404	199	351	186	233	275
August	268	578	431	336	874	497
September	936	1,213	353	1,369	1,484	1,071
October	1,044	1,915	349	1,830	2,654	1,559
November	3,710	1,879	973	2,876	3,424	2,573
December	4,885	5,365	4,292	4,424	5,122	4,818
January	4,718	5,587	5,274	4,060	6,104	5,149
February	3,794	4,493	4,542	4,393	4,405	4,326
March	2,451	2,656	2,929	3,474	3,260	2,954
April	1,748	1,261	1,109	1,219	1,534	1,374
May	879	257	762	906	949	751
June	262	287	208	605	484	369
Year to Date	**25,099**	**25,691**	**21,572**	**25,678**	**30,528**	**25,714**
Total	**25,099**	**25,691**	**21,572**	**25,678**	**30,528**	**25,714**

O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Daily Flows ALL Stations 2024-25.xlsx]Monthly Supply Summary



c) Long-term extraction shows a marked reduction in water usage; utilisation of irrigation area is presently at 80% (2024), 1997 this was 98%; Irrigable area has increased by 8% from 1997. Water savings have largely been achieved by a change from dominant furrow irrigation in 1997 to dominant drip irrigation in 2024:



Irrigation method	1997	2003	2006	2009	2012	2015	2018	2021	2024	% in 2024	Change 1997-2024
Drip	415	1,110	1,460	1,760	1,970	2,000	2,240	2,500	2,670	66%	+2,255
Low level	1,095	1,295	1,320	1,025	935	830	695	535	430	11%	-665
Overhead	970	795	635	410	295	270	240	200	150	4%	-820
Furrow, flood	1,195	525	255	105	80	55	25	5	0	0%	-1,195
Vacant	80	205	290	780	795	920	865	840	810	20%	+730
Total (ha)	3,755	3,930	3,960	4,080	4,075	4,075	4,065	4,080	4,060	100%	+305
Dominant	furrow	lowlevel	drip								

(2024 WMI Crop Report, p15)

d) Long-term climate tends to go through long periods of drought followed by heavy rainfall. 2024/25 was 29% below average annual rainfall 196.4mm (278.2mm 50-year average), concentrated around winter and spring.

Cumulative Totals													
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
2024/25	16.8	27.6	39.2	71.6	138.0	156.0	160.8	162.4	173.8	184.8	184.8	196.4	
50 Yr Average	23.7	47.1	73.6	103.0	131.3	157.8	182.8	200.2	215.3	233.4	256.2	278.2	
Max Year in 50	26.4	55.6	112.2	204.4	314.6	461.4	588.4	771.6	891.4	903.2	916.4	926.6	2010/11
Min Year in 50	2.6	5.0	29.2	32.4	35.6	36.6	38.4	39.2	71.4	79.4	90.0	97.4	1982/83

Rainfall mm (Original data from B.O.M. - Mildura Airport)

Condition 2.5-Water Use

a) 2024/25 WMI extracted 305526.6ML for water use (see 2.5 – Extraction a), this report), this was used predominantly for horticulture with a small amount of this allocated for General Security (41.9ML) and Domestic and Stock use (560ML).

b) WMI crops are planned to be surveyed every three years, next report due at end of 2027:

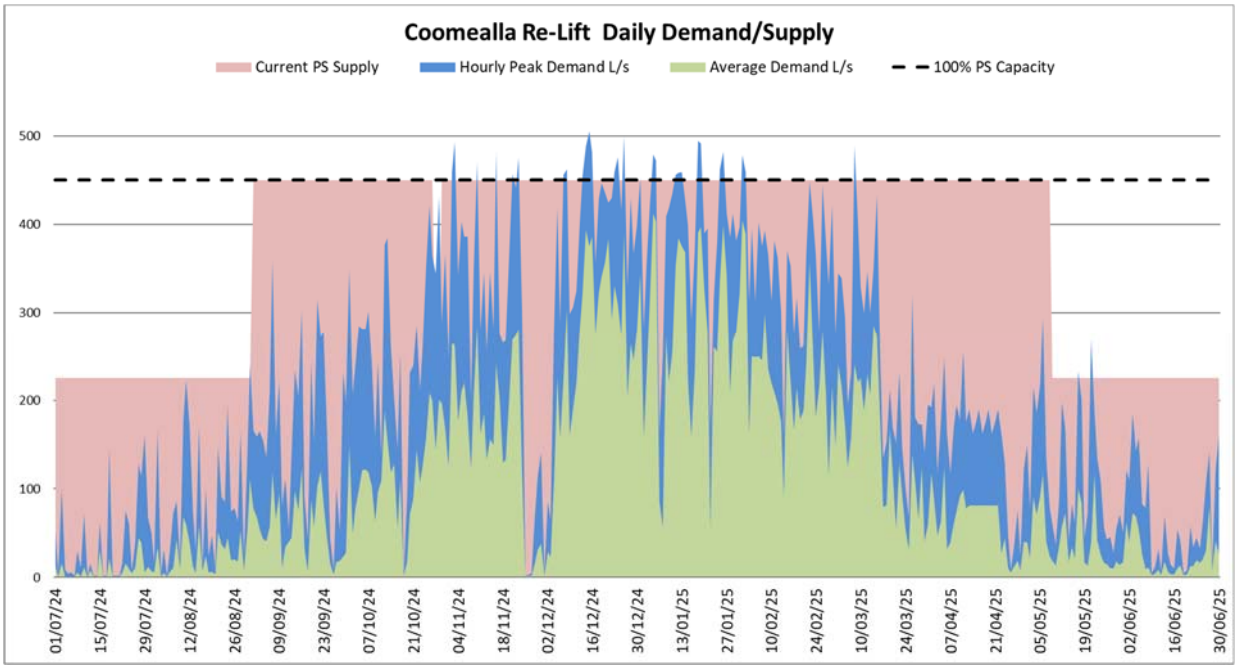
	Crop type	1997	2003	2006	2009	2012	2015	2018	2021	2024	% in 2024	Change 1997-2024
Permanent	Grape Dried	1,105	735	535	285	295	265	230	125	75	2%	-1,030
	Grape Table	45	90	80	55	60	60	75	150	225	6%	+180
	Grape Wine	1,145	1,825	1,935	1,980	1,805	1,670	1,610	1,690	1,675	41%	+530
	Citrus	1,180	935	920	810	795	735	690	785	830	20%	-350
	Fruit Tree	30	20	30	40	85	110	170	140	145	4%	+115
	Nut Tree	0	5	5	5	10	25	35	20	20	<1%	+20
	Other	5	5	20	20	35	30	20	25	20	<1%	+15
Seasonal	Field Crop	105	55	60	30	40	55	55	75	50	1%	-55
	Veg. Cucurbit	25	35	55	50	105	155	240	190	200	5%	+175
	Veg. Other	35	20	30	25	50	50	75	40	10	<1%	-25
Vacant P[2]		25	110	185	645	675	740	705	650	625	15%	+600
Vacant S[3]		55	95	105	135	120	180	160	190	185	5%	+130
Total irrigable (ha)		3,755	3,930	3,960	4,080	4,075	4,075	4,065	4,080	4,060	100%	+305
Dominant		citrus	wine grapes									

Figure 2: Western Murray Irrigation - crop types from 1997 to 2024

[2] Vacant P: not irrigated but previously an irrigated permanent planting
[3] Vacant S: not irrigated but previously an irrigated seasonal crop

It has been noticed the horticulture business is gaining some momentum within Coomealla Irrigation Area. Short term trends indicate more irrigable land is being put back into production; this will also increase water usage which will challenge our infrastructure in its current configuration. Buronga is losing productive land to development; Curlwaa vacant land continues with an upward trend.

c) We are pumping less water annually than 1997, but drip irrigation puts excessive intra-day pressure on our infrastructure (designed around furrow irrigation); days above 40C create very high peaks of demand from drip irrigation systems; targeted pipeline upgrades are necessary to alleviate the intra-day demand.



Coomealla relift pump station emphasises demand at peak season (2024/25). Rain events can be seen mid-Irrigation season where the demand reduces to zero for a few days. When Coomealla relift pump station is above 450L/s, customer pressure drops below service level; This is a typical irrigation season and is the usual trends we record.

Condition 2.6

The following have been identified as possible data omissions and discrepancies with an explanation of action undertaken/proposed to remedy the monitoring and reporting deficiency.

a) Several destroyed piezometers have not been replaced; however, consideration is being given to which piezometers are required to achieve the appropriate reporting coverage with consultation with a groundwater hydrogeologist. Rehabilitation of several piezometers is now ongoing, several piezometers have recorded ground water to a measurable level since the flood in 22/23, indicating they are serviceable, but mostly read dry due to low groundwater. Piezometers have been checked for GPS location and updated; several were found incorrect. All positions are now recorded to our GIS system as GDA94, we would like to update to GDA2020, but current hand-held GPS do not come with GDA2020 as an optional coordinate system. As built screen depths have been updated from historical files where possible, See condition 2.17.

Condition 2.7

All files including the Compliance Report, and all associated Excel spread sheets have been provided, as a record of monitoring and testing data for discharged water salinity and volume and groundwater conditions. These are provided in an unrestricted access, electronic format.

Condition 2.8

"Salinity Training Manual"; Published by NSW Department of Primary Industries, June 2014 is used as a reference for understanding the effects of salination and methods for monitoring and control. Quality assurance is achieved by annual calibration of our extraction meters for extraction volume. MDBA website is used for salinity readings from Mildura weir. Volume of exports is measured by V-notch, timed-10L bucket, or meters; Salinity is measured with a salinity meter which is calibrated before every use with a test solution. As part of EPA reporting, at least once a year (depending on drainage flow) drainage water samples are sent to consultants 'Pinion Advisory-Mildura' for NATA approved laboratory testing for chemical content (at NMI, 105 Delhi Road, North Ryde, NSW 2113). Piezometers are measured in accordance with the works approval. Training is also carried out, so at least 3 staff are familiar with the current monitoring procedures. Consultants are used for advice when required.

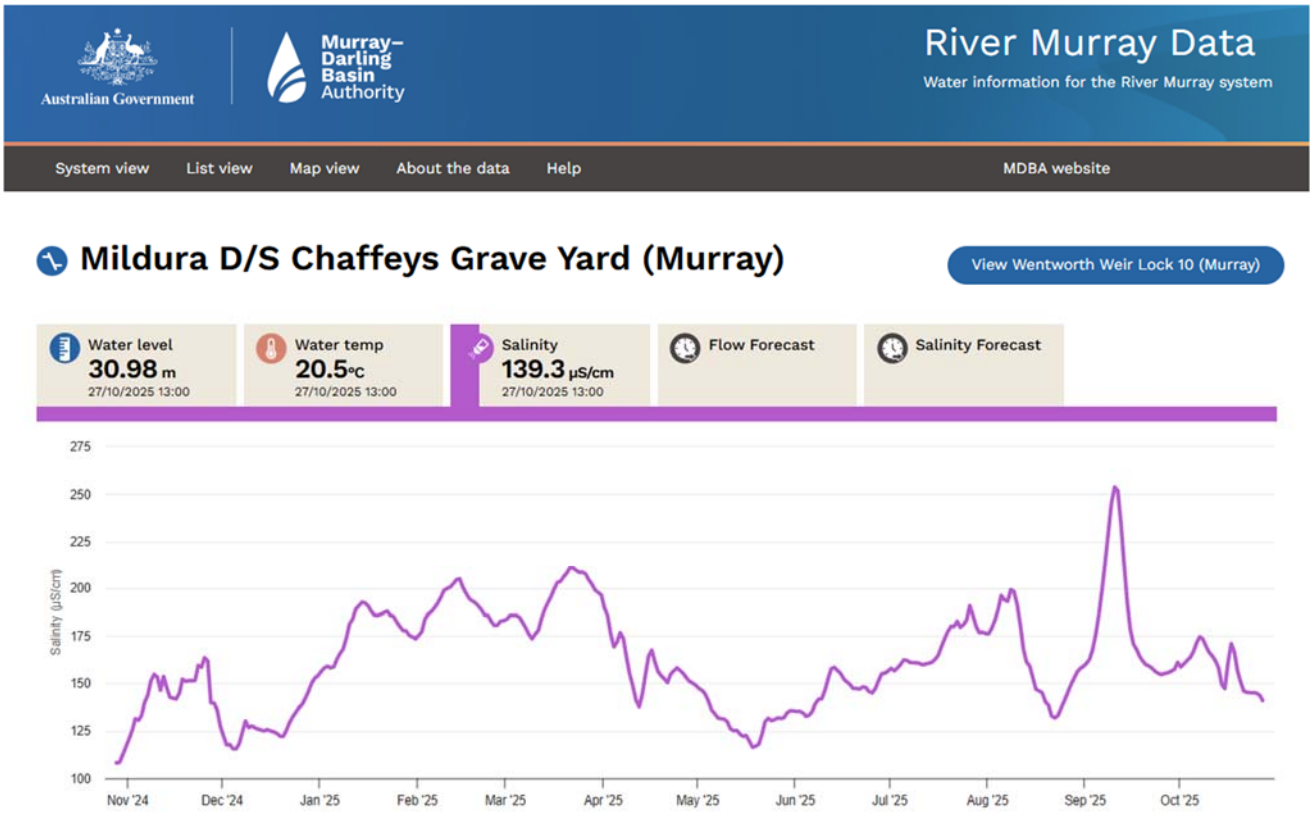
New Measures to Limit Groundwater Recharge and Discharge of Salt

Condition 2.9

A continuing trend towards drip irrigation requires much finer filtration, this requires more frequent operation of filter backflush systems; Hydrogen peroxide treatment was introduced in 2019/20 to stop the growth of pipeline bryozoans and

other organic growths, it has reduced backflush water at the on-farm filtration systems, and reduced flows into the surface drainage system, thereby reducing groundwater recharge and discharge of salt.

Since June 2023, the river has returned to normal flows, although salinity has been erratic and has spent a lot of time in a high range, average of 189µS/cm; normally expect <150.



Reporting on Water Management

Condition 2.10

In respect of each water supply work listed in schedule one (of the Monitoring and Reporting Plan for Combined Approval 60CA581273) the reconciled monthly water volumes in megalitres are as follows:

a) Extracted under water access licences held by the approval holder. Domestic + Stock, General Security and High Security are not metered separately. There is a 1.1ML totalised discrepancy between Water NSW statements and WMI reported figures.

Water NSW - Reconciled Usage

IWAS Statement		
Type	**WAL**	**ML**
HS	60AL581271	29,924.7
DS	60AL581272	490.0
DS	60AL682421	34.0
DS	60AL583565	36.0
GS	60AL583086	41.9
	Total	30,526.6

	BURONGA				COOMEALLA				CURLWAA								
													TOTAL				
Month	**2022/23**	**2023/24**	**2024/25**	***3 Yr RA***	**2022/23**	**2023/24**	**2024/25**	***3 Yr RA***	**2022/23**	**2023/24**	**2024/25**	***3 Yr RA***	**2022/23**	**2023/24**	**2024/25**	***3 Yr RA***	%
July	50	29	40	*40*	242	132	157	*177*	59	25	36	*40*	351	186	233	*257*	91%
August	48	46	112	*69*	316	243	643	*401*	67	47	119	*78*	431	336	874	*547*	160%
September	49	137	118	*101*	260	1,018	1,146	*808*	44	213	220	*159*	353	1,369	1,484	*1,069*	139%
October	31	155	164	*117*	273	1,438	2,144	*1,285*	45	238	346	*210*	349	1,830	2,654	*1,611*	165%
November	82	253	248	*194*	758	2,273	2,769	*1,933*	133	350	407	*297*	973	2,876	3,424	*2,424*	141%
December	349	407	391	*382*	3,429	3,530	4,162	*3,707*	514	486	569	*523*	4,292	4,424	5,122	*4,612*	111%
January	484	386	508	*459*	4,116	3,217	4,896	*4,076*	673	457	700	*610*	5,274	4,060	6,104	*5,146*	119%
February	392	420	422	*411*	3,553	3,403	3,414	*3,457*	597	571	569	*579*	4,542	4,393	4,405	*4,447*	99%
March	271	350	350	*324*	2,175	2,671	2,510	*2,452*	483	453	400	*445*	2,929	3,474	3,260	*3,221*	101%
April	125	134	162	*140*	788	887	1,146	*940*	196	197	226	*206*	1,109	1,219	1,534	*1,287*	119%
May	72	125	90	*96*	545	660	702	*636*	145	121	157	*141*	762	906	949	*872*	109%
June	17	58	33	*36*	171	455	359	*328*	20	92	92	*68*	208	605	484	*432*	112%
Year to Date	**1,970**	**2,500**	**2,638**	**2,369**	**16,625**	**19,927**	**24,049**	**20,201**	**2,976**	**3,251**	**3,841**	**3,356**	**21,572**	**25,678**	**30,528**	**25,926**	**118%**
Total	**1,970**	**2,500**	**2,638**	**2,369**	**16,625**	**19,927**	**24,049**	**20,201**	**2,976**	**3,251**	**3,841**	**3,356**	**21,572**	**25,678**	**30,528**	**25,926**	

O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Supply 2024-25 YTD.xlsx]Summary

WMI – Reconciled Usage for each Authorised supply works

b) No other water access licences were used for extraction.
c) No water was extracted for environmental or river operational purposes.
d) All water is delivered to customers except for leakage and flushing (scouring); leakage is so minute it is not measurable with any confidence, flushing used 48.16ML.

Condition 2.11

Water discharged from (drainage) sites listed in Attachment 1:
This "Drainage" water is a combination of:

- Groundwater - from the deep drainage system, this drains the farms of excessive water from irrigation and rain events, these drains were very active when furrow irrigation was dominant.
- Surface water - from the surface drain system, from backflush, deep drains discharge and rain events.

a) Discharged without credit:
    - 687.38 ML was retained in area of operations i.e., drainage basins and flood plains, not to the river.
    - 28.12 ML was discharged to Murray River.
b) Nil discharges for environmental or river operational purposes.

Condition 2.12

a) Discharged without credit (not including rain or evapotranspiration rates).
    - Buronga – 2,638ML water extracted from river, 0.0ML scoured to drains, 1.41ML discharged to drainage basins.
    - Coomealla – 24049ML water extracted from river, 40.96ML scoured to drains, 666.57ML discharged to drainage basins and flood plains, 28.12ML drained to river.
    - Curlwaa – 3841ML extracted from river, 7.2ML scoured to drains, 19.4ML discharged to drainage basins.

b) Negligible losses in fully pipelined network <10ML (0.05%).
c) No change to offline storages – (balance towers) they are a fixed size metal cylinder, kept at a constant height to maintain pressure on the pipelined systems, i.e., part of the pipelined system. Coomealla tower (1995) is approximate 2ML (0.01% of annual use), Curlwaa tower (1986) is approximately 0.6ML (0.017% of annual use), they have been at the same level (except maintenance) since construction.

Water Extraction and Supply Balance (ML)

	Buronga	Coomealla	Curlwaa
Extracted under water access licence held by the approval holder	2,638	24,049	3,841
Extracted under any other water access licences nominating that work	0	0	0
Extracted for environmental or river operational purpose under agreement with and for Water NSW or the Minister.	0	0	0
Delivered in total to the approval holders customers	2,654	23,450	3,758
Discharged without credit (Scouring)	0	41	7
Discharged for environmental or river operational purpose under agreement with Water NSW or the minister.	0	0	0
Net channel losses	0	0	0
Escaped	0	0	0
Recycled	0	0	0
Evapourated	0	0	0
Within Channel rainfall	0	0	0
Change in water storage volume	0	0	0
Seepage	0	0	0
Change in the volume of water held in off-line storages	0	0	0
Extraction minus discharge	-16	558	76
%	-0.62%	2.32%	1.97%

O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[Pumped Vs Field Meters 2024_25.xlsx]2024-25

The small discrepancies of extraction minus discharge are considered acceptable metering errors (<5%).

Condition 2.13

The estimated annual values in measurement units requested for:

a) Rainfall = 196.4mm
b) Evapotranspiration = 2034mm (Mildura Airport, supplied by BOM).
c) Water deliveries for horticulture = 92% = 28,086ML
d) Water deliveries for summer crops = 7.9% = 2,442ML
e) Water deliveries for winter crops = <0.1% = 31ML

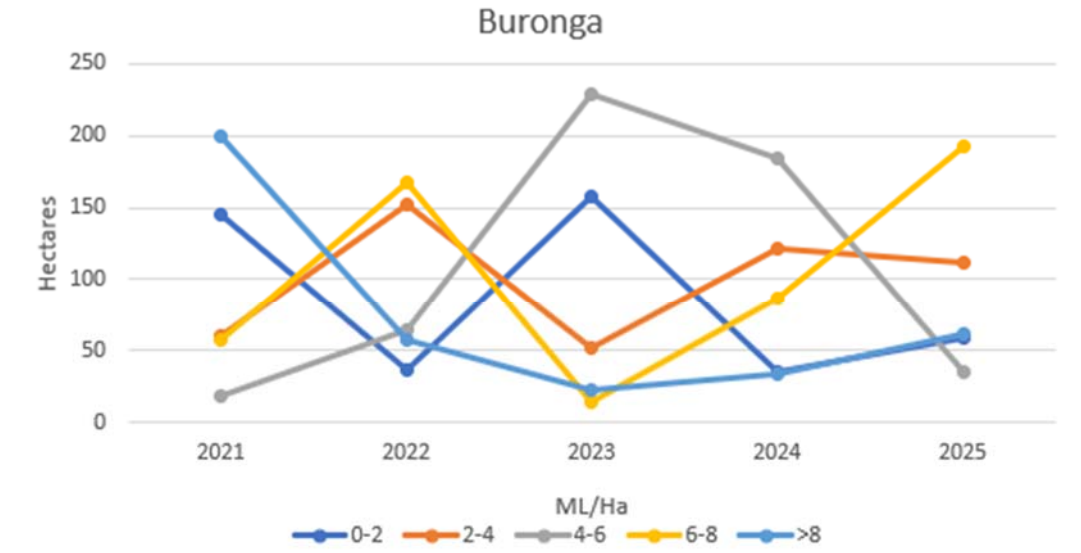
Table 2: Western Murray Irrigation - irrigated crops in 2024

Crop type		2024 (ha)	2024 %	Description
Permanent	Grape Dried	75	2%	
	Grape Table	225	6%	
	Grape Wine	1,675	41%	
	Citrus	830	20%	Mainly navel orange and mandarin. Also, blood orange, grapefruit, lemon, lime, common orange, pomelo, tangelo and Valencia.
	Fruit Tree	145	4%	Mainly fig, avocado, stone fruit and pomegranate. Also, date palm, olive and mango.
	Nut Tree	20	<1%	Almond
	Other	20	<1%	Mainly nurseries. Also, native plants and tree plantations.
Seasonal	Field Crop	50	1%	Mainly summer crops; pasture, lucerne and turf.
	Veg. Cucurbit	200	5%	Mainly melons. Also, pumpkin and zucchini.
	Veg. Other	10	<1%	Asparagus and other vegetables including beans, chilli, eggplant, peas, sweet corn and tomato.
Total irrigated (ha)		3,250	80%	
Vacant	Vacant P	625	15%	Vacant (not irrigated), previously an irrigated permanent crop
	Vacant S	185	5%	Vacant (not irrigated), previously an irrigated seasonal crop
Total irrigable (ha)		4,060	100%	

WMI Crop Report 2024, p.10

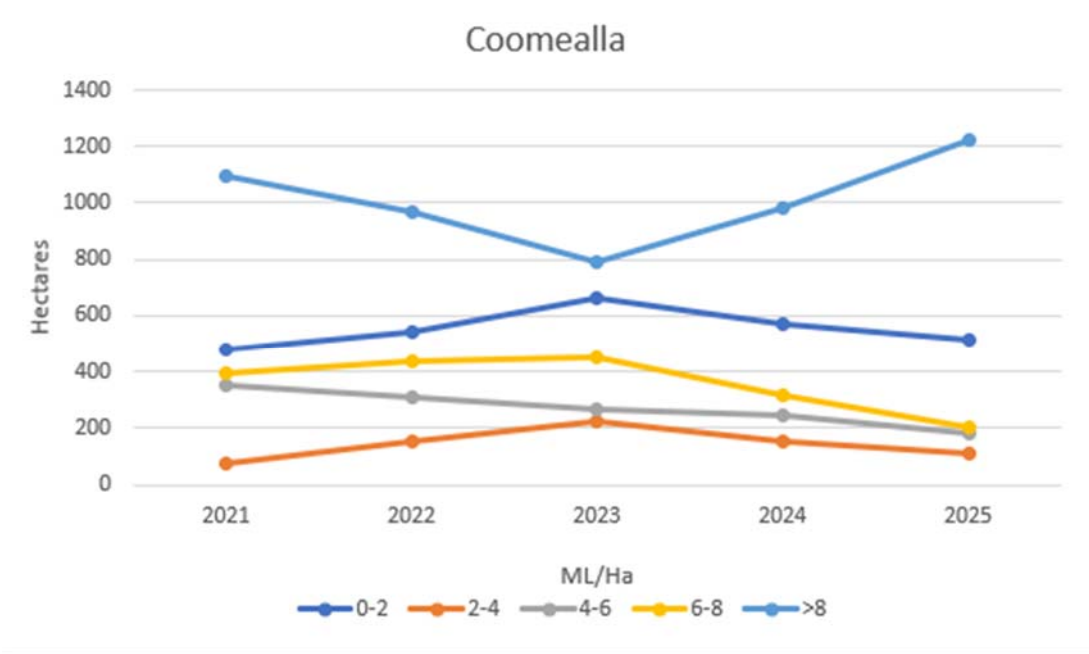
f) Water deliveries for Domestic and Stock = 560ML.
g) Application areas for the water uses c) to f) estimated from locally relevant crop water use factors. = 3,250ha.
h) The distribution of irrigation intensity (ML/ha/year) in at least three intensity ranges for the main supply sub-division areas.

Five intensity ranges total Ha of ML/Ha over a period of 5 years for each irrigation area. The data can easily get distorted e.g. if there is no market for grapes, the growers will cut back on the water to minimal requirements to just keep the vines alive:



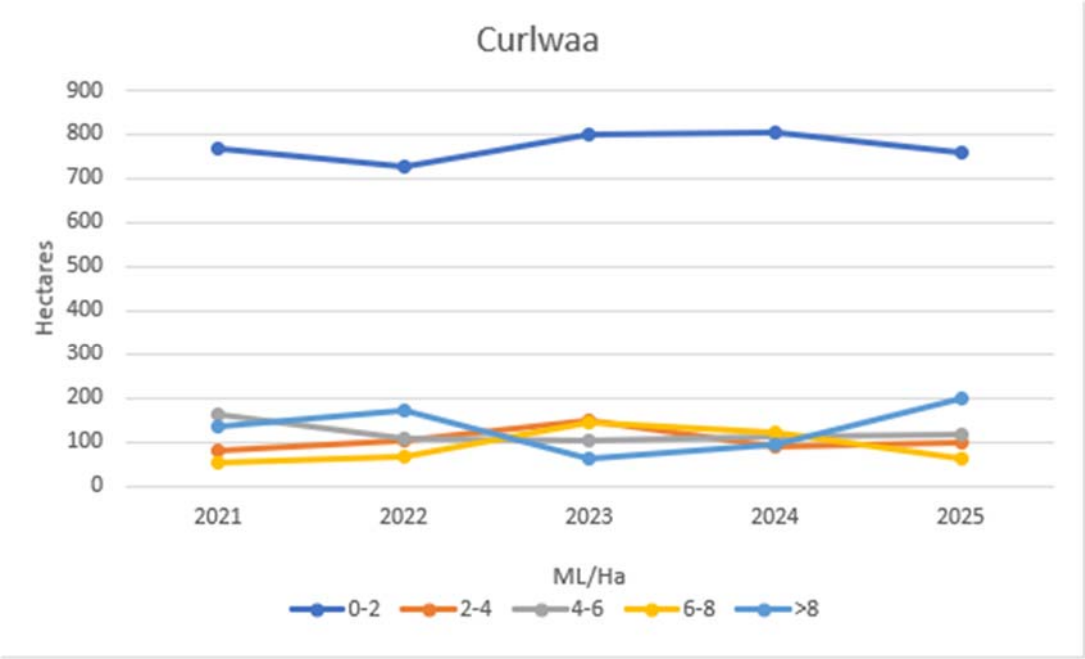
F:\Annual Reports\EPA Return and Water Approval Annual Compliance\30 June, 2025\ACR\[ML per Ha charts.xlsx]Sheet2

Buronga appears erratic, this is due to a lot of replanting, urbanisation, one large irrigator taking supply from another water source and Buronga being a small system. The 6-8ML/Ha range has trended up strongly over the past 2 years, while the 4-6ML/Ha has trended down over the same period, indicating more water is being applied per hectare.



F:\Annual Reports\EPA Return and Water Approval Annual Compliance\30 June, 2025\ACR\[ML per Ha charts.xlsx]Sheet2

Coomealla has also had a lot of replanting and redevelopment of previously dry blocks for the past 3 years. The >8ML/Ha has trended up for the past 2 years, while all others have trended down, this is possibly due to the crops planted in the previous seasons reaching maturity and requiring more water.



F:\Annual Reports\EPA Return and Water Approval Annual Compliance\30 June, 2025\ACR\[ML per Ha charts.xlsx]Sheet2

Curlwaa continues a trend of significant land out of production. There is a noticeable increase in the >8ML range for this year, with a corresponding decrease in the 6-8ML range; This may indicate crops coming into maturity, or more likely 2 dry seasons requiring more water for established crops.

Reporting on Salinity and Saltload

Condition 2.14

The salinity and saltload of extractions at the sites listed in schedule 1, and in accordance with requirements set out in schedule 1:

- Flow - ML/Month
- Salt Loads - Tonnes/Month
- Salinity - micro-Siemens/cm
- In table format

	BURONGA W01		COOMEALLA W02		CURLWAA W03		Average
Month	**ML**	**Salt (T)**	**ML**	**Salt (T)**	**ML**	**Salt (T)**	**EC**
July	40	5	157	21	36	5	208
August	112	18	643	106	119	19	256
September	118	23	1,146	229	220	44	312
October	164	23	2,144	269	346	47	200
November	248	24	2,769	264	407	39	149
December	391	33	4,162	355	569	49	133
January	508	59	4,896	568	700	81	181
February	422	56	3,414	418	569	70	193
March	350	43	2,510	308	400	49	192
April	162	16	1,146	116	226	23	158
May	90	8	702	60	157	13	133
June	33	3	359	33	92	9	145
Year to Date	**2,638**	**311**	**24,049**	**2,747**	**3,841**	**448**	**179**

O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Supply 2024-25 YTD.xlsx]Salt Loads

All Districts	2024/25		
	ML	**Salt (T)**	**AV EC**
Year to Date	**30,528**	**3,506**	179

O:\Supply\WMIL Supply Figures\WMIL Supply 2024-25\[WMIL Supply 2024-25 YTD.xlsx]Salt Loads

Condition 2.15

The salinity and salt loads of discharges at the sites listed in Attachment 1, and in accordance with the requirements set out in Attachment 1:

- Volume - ML/Month
- Salt Load - Tonnes/Month
- Monthly min, max, average
- Table format

District	Curlwaa	Location Details	Type: Centrifugal Pumps
Work/Site Identifier	CW 6	Coordinates (WGS84)	Dimensions: 80mm & 200mm
Name	James' Highway		X- Section = 0.04m^2
Representing discharge	Discharges to Fletchers Lake	586760E 6225910N	Capacity: 13 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 ML	0.0	0.0	0.0	Flow	No Flow
Salt Load (T)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 T	0.0	0.0	0.0		
Average EC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	0	0	NA	0	52

O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]EPA13 CW6 James Hwy 52

District	Buronga	Location Details	Type: Weir - 90° V Notch
Work/Site Identifier	B1	GDA94-54	Dimensions: 300mm Pipe
Name	Corbett Ave		X- Section = 0.07m^2
Representing discharge	Discharges to Basin No.1	609900E 6219513N	Capacity: 2 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	0.30	0.19	0.19	0.19	0.10	0.19	0.22	0.02	0.00	0.00	0.00	0.00	1.4 ML	0.30	0.00	0.12	Flow	No Flow
Salt Load (T)	0.30	0.16	0.16	0.16	0.06	0.11	0.14	0.01	0.00	0.00	0.00	0.00	1.1 T	0.30	0.00	0.09		
Average EC	1,545	1,324	1,318	1,298	980	865	1,011	750	NA	NA	NA	NA		1,545	750	1,223	30	22

O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]Corbett Ave B1 52

District	Coomealla	Location Details	Type: Weir - 60° V Notch
Work/Site Identifier	CM 5	0	Dimensions: 600mm Pipe
Name	Hollands Lake Main Deep Drain		X- Section = 1.13m^2
Representing discharge	Discharge to Hollands Lake	E N	Capacity: 8ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	4.7	2.2	10.1	25.91	59.2	28.0	85.48	34.6	19.591	5.0	2.6	0.8	278.1 ML	85.5	0.8	23.2	Flow	No Flow
Salt Load (T)	7.4	2.7	13.7	35.03	90.7	41.9	152.97	57.1	27.419	7.0	4.0	1.0	440.9 T	153.0	1.0	36.7		
Average EC	2,470	1,940	2,120	2,113	2,394	2,336	2,796	2,579	2,187	2,205	2,429	1,793		2,796	1,793	2,477	52	0
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM5 HLDD																	52	

District	Coomealla	Location Details	Type: Weir - 90° V Notch X2
Work/Site Identifier	CM 1	GDA94-54	Dimensions: 600mm Pipe
Name	Risbey's Outfall - Risbey's Main Deep Drain & Branch Channel No.1 COMBINED		X- Section = 1.13m2
Representing discharge	Discharge to Tuckers Creek	594809E 6227149N	Capacity: 16 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	0.0	0.0	0.0	0.00	11.8	0.0	0.00	0.0	0.000	0.0	0.0	0.0	11.8 ML	11.8	0.0	1.0	Flow	No Flow
Salt Load (T)	0.0	0.0	0.0	0.00	16.6	0.0	0.00	0.0	0.000	0.0	0.0	0.0	16.6 T	16.6	0.0	1.4		
Average EC	NA	NA	NA	NA	2,200	NA	NA	NA	NA	NA	NA	NA	2,200	2,200	2,200	2,200	1	51
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM1 Risbeys Combined																	52	

District	Coomealla	Location Details	Type: Weir - 90° V Notch
Work/Site Identifier	CM2	GDA 94 M54 E595763 N6232045	Dimensions: 600mm Pipe
Name	Risbey's Pumps to Fletchers Lake		X- Section = 1.13m2
Representing discharge	Discharge to Fletchers Lake		Capacity: 8 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	7.0	8.8	18.2	30.21	49.5	30.2	32.30	16.3	16.010	13.3	3.0	4.4	229.2 ML	49.5	3.0	19.1	Flow	No Flow
Salt Load (T)	7.0	9.7	23.3	32.45	65.3	43.2	48.64	26.3	18.281	15.4	2.8	3.7	296.0 T	65.3	2.8	24.7		
Average EC	1,560	1,723	1,996	1,678	2,062	2,233	2,353	2,521	1,784	1,813	1,450	1,297		2,521	1,297	2,018	52	0
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM2 Risbeys Pump Station																	52	

District	Coomealla	Location Details	Type: Bank & Pipe
Work/Site Identifier	CM 7	Coordinates (WGS84)	Dimensions: 150mm Pipe
Name	Water's Deep Drain		X- Section = 0.07m^2
Representing discharge	Discharges to Murray River	595825E 6226100N	Capacity: 0.5 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 ML	0.0	0.0	0.0	Flow	No Flow
Salt Load (T)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 T	0.0	0.0	0.0		
Average EC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0	0	NA	0	52
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]EPA5 CM7 Waters Combined																	52	

District	Coomealla	Location Details	Type: Bank & Pipe
Work/Site Identifier	CM 21	Coordinates GDA94-54	Dimensions: 150mm Pipe
Name	Old Jetty		X- Section = 0.07m^2
Representing discharge	Discharges to Murray River	596276E 6225541N	Capacity: 0.5 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	0.3	1.0	1.1	1.5	3.2	3.8	4.1	4.9	6.0	0.0	0.0	2.2	28.1 ML	6.0	0.0	2.3	Flow	No Flow
Salt Load (T)	0.5	1.1	1.1	1.8	4.3	6.7	8.9	10.6	15.3	0.0	0.0	4.0	54.3 T	15.3	0.0	4.5		
Average EC	2,668	1,834	1,600	1,789	2,118	2,717	3,404	3,365	4,005	NA	NA	2,827		4,005	1,600	3,019	40	12
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM21 EPA2 Old Jetty																	52	

District	Coomealla	Location Details	Type: Bank & Pipe
Work/Site Identifier	CM 13	GDA94-54	Dimensions: 150mm Pipe
Name	Deep Drain 342-398 WMIL Depot		X- Section = 0.07m^2
Representing discharge	Discharges to Murray River Flood Plain	596440E 6225448N	Capacity: 0.5 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	1.5	1.7	2.9	3.0	4.4	4.0	5.9	5.7	7.3	2.0	0.8	0.0	39.2 ML	7.3	0.0	3.3	Flow	No Flow
Salt Load (T)	2.5	2.6	3.9	3.2	10.3	6.2	12.3	11.6	14.5	1.8	0.8	0.0	69.7 T	14.5	0.0	5.8		
Average EC	2,669	2,370	2,090	1,677	3,682	2,388	3,269	3,158	3,120	1,385	1,600	NA		3,682	1,385	2,780	42	10
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM12&13 DD342-398(Depot)																	51	

District	Coomealla	Location Details	Type: Bank & Pipe
Work/Site Identifier	CM 14	GDA94-54	Dimensions: 150mm Pipe
Name	Wakefield Deep DD352		X- Section = 0.07m^2
Representing discharg	Discharges to Murray River Flood Plain	597314E 6224817N	Capacity: 0.5 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	3.1	2.9	4.3	4.2	10.2	3.9	2.9	2.7	3.7	0.8	0.0	0.2	38.9 ML	10.2	0.0	3.2	Flow	No Flow
Salt Load (T)	3.9	2.9	3.5	3.9	8.7	3.5	2.7	2.3	3.3	0.9	0.0	0.3	35.9 T	8.7	0.0	3.0		
Average EC	1,978	1,563	1,260	1,440	1,333	1,427	1,453	1,315	1388	1,788	NA	2,300		2,300	1,260	1,441	42	10
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM14 Wakefield Deep																	52	

District	Coomealla	Location Details	Type: Bank & Pipe
Work/Site Identifier	CM 15	GDA94-54	Dimensions: 150mm Pipe
Name	Boronia Deep Drain - DD365		X- Section = 0.07m^2
Representing discharge	Discharges to Murray River Flood Plain	597737E 6224257N	Capacity: 0.5 ML/D

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits	
Volume (ML)	0.0	0.0	0.2	0.1	2.5	5.1	3.7	2.6	2.3	0.7	0.4	0.3	17.8 ML	5.1	0.0	1.5	Flow	No Flow
Salt Load (T)	0.0	0.0	0.1	0.1	5.3	11.7	7.1	3.7	4.1	1.1	0.6	0.4	34.3 T	11.7	0.0	2.9		
Average EC	NA	NA	1,140	1,692	3,262	3,571	2,986	2,986	2868.7	2,419	2,730	2,319		3,571	1,140	3,011	37	15
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM15 Boronia Deep																	52	

District	Coomealla									Location Details				Type	Bank & Pipe				
Work/Site Identifier	CM 17									GDA94-54				Dimensions	150mm Pipe				
Name	3rd Allocation Main Deep Drain - DD346														X- Section = 0.07m^2				
enting discharge	Discharges to Murray River Flood Plain									598345E		6223751N		Capacity	0.5 ML/D				
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits		
Volume (ML)	2.6	2.0	3.1	7.7	10.8	10.5	16.1	10.2	8.1	0.5	5.2	2.8	79.6 ML	16.1	0.50	6.6	Flow	No Flow	
Salt Load (T)	4.9	3.1	2.3	6.1	18.5	19.1	22.9	14.8	9.9	0.3	5.2	1.7	108.9 T	22.9	0.3	9.1			
Average EC	2,924	2,416	1,159	1,235	2,672	2,846	2,221	2,262	1921.4	1,080	1,581	948		2,924	948	2,137	50	2	
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CM17 3rd Allocation Deep																	52		

Condition 2.16

A simple annual salt balance representing the imported, exported and retained salt load for the area associated with each separate water supply work:

WMI Supply Imports

Buronga			Coomealla			Curlwaa		
Main Pumping Station			Main Pumping Station			Main Pumping Station		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
2,638	184	311	24,049	178	2,747	3,841	182	448

O:\DO Files\001Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]Area Drainage and Salt Imports

WMI Drainage Outfalls 24/25

Buronga			Coomealla			Curlwaa			Total		
Total Drainage			Total Drainage			Total Drainage			Total Drainage		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
1.41	1,223	1.11	694.69	2,377	1056.68	19.40	4,182	51.91	715.50	2593.71	1109.69
Drainage Basins			Drainage Basins			Drainage Basins			Drainage Basins		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
1.41	1,223	1.11	507.37	2,269	736.92	19.40	4,182	51.91	528.18	2557.96	789.94
Flood Plains			Flood Plains			Flood Plains			Flood Plains		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
0.00	NA	0.00	159.20	2,605	265.41	0.00	NA	0.00	159.20	2604.98	265.41
Murray River			Murray River			Murray River			Murray River		
ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)	ML	Av. EC	Salt (T)
0.00	NA	0.00	28.12	3,019	54.35	0.00	NA	0.00	28.12	3019.34	54.35

O:\DO Files\001Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]Area Drainage and Salt Imports

WMI Salt Balance

Salt (T)	Buronga	Coomealla	Curlwaa	Total
Imported	311.00	2,747.00	448.00	3,506.00
Exported to Drainage Basins	1.11	736.92	51.91	789.94
Exported to Murray Flood Plains	0.00	265.41	0.00	265.41
Exported to Murray River	0.00	54.35	0.00	54.35
Retained on Irrigated Land	309.89	1,690.32	396.09	2,396.31

O:\DO Files\001Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]Area Drainage and Salt Imports

Retained salt T/ha			
	Buronga	Coomealla	Curlwaa
Irrigated ha	430	2290	515
Tonnes salt retained	310	1690	396
Average T/ha	0.72	0.74	0.77

O:\DO Files\001Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]Area Drainage and Salt Imports

Reporting Groundwater Requirements

Condition 2.17

The results of monitoring of groundwater conditions by means of piezometers and groundwater control bores (tube-wells) in accordance with the monitoring and reporting requirements set out in Attachment 2.

On advice from NRAR, WMI have had the groundwater monitoring network reviewed by a consultant hydrogeologist 20/21, this report will be sent with the Annual Compliance Report. In accordance with this report the following audit has been started in 2021/22 and has continued through 23/24 although floods held up progress most of the year.

- 100% of WMI controlled Piezometers accounted for. – *Complete; some are completely gone (destroyed), some need some work to bring them back into service.*
- GPS location re-established for GDA1994. *A two-stage verification has been carried out, desktop utilising GIS and a physical GPS read using a hand-held GPS, a lot of sites are walk-in only.*
- AHD, screen depth and overall depth measured and confirmed at each piezometer. – *There is no way of physically confirming screen depth; overall depth has been measured. Natural surface AHD still missing on some.*
- Assess dry/destroyed piezometers for rehabilitation. Work is ongoing to rehabilitate dry piezometers.

Example of piezometer desilting in progress. This piezometer was previously 'dry', it is now 2M deeper and reading correctly.

- Liaise with other stakeholders to establish a plan of rectification for the whole piezo network (including not WMI). – Unable to find which government department responsible for coordinating the piezo network.
- Groundwater control bores (Tubewells) are fully operational; bores have been running once a month for a week as part of anti-deterioration maintenance; Drainage water is transferred to the Tubewell pump station, where it is pumped through a sealed pipeline to Fletchers Creek; from there it discharges to Fletchers Lake.

Attachment 2- p.1

Piezometers are read in accordance with appropriate procedures and standards detailed in: DPI NSW, Salinity Training Manual - 2014, Chapter 13.

Current listing of piezometers by area:

Buronga							
Site ID	**Use Y/N**	**Top of Pipe above NS (M)**	**NS (AHD)**	**Depth below top of pipe (M)**	**GDA94 Easting**	**GDA94 Northing**	**Condition**
BGA 39	Y	0.10	38.77	6.40	611,610	6,220,940	**6.3**
BGA 41	Y	0.10	38.65	5.27	611,866	6,218,570	**5.17**
BGA 42	Y	0.16	36.84	4.90	610,052	6,217,625	**4.74**
BGA 49	Y	0.10	38.54	7.14	608,896	6,220,547	**7.04**
BGA 70	Y	0.15	38.64	5.64	614,390	6,218,577	**5.49**
BGA 94	**N**	0.03	37.79	**Destroyed**	608,949	6,218,151	**Destroyed**
BGA 112	Y	0.10	38.52	7.10	608,764	6,219,899	**7**
BGA 113	**N**	0.09	37.21	**Destroyed**	608,492	6,220,035	**Destroyed**
BGA1010	Y	0.17	38.58	6.44	613,744	6,219,867	**6.27**
BGA1011	Y	0.22	33.44	3.07	606,079	6,226,268	**2.85**
BGA1012	Y	0.15	33.50	3.82	607,960	6,229,259	**3.67**
BGA1013	Y	0.50	33.15	1.46	612,885	6,221,493	**0.96**
BGA1080	Y	0.16	35.40	2.16	612,168	6,218,409	**2**
BGA1211	Y	0.20		9.78	608,607	6,219,061	**9.58**
BGA1214	Y	0.30	34.41	2.30	613,603	6,221,382	**2.00**
GGN 88168	Y	0.55		5.17	611,723	6,221,813	**4.62**
GGN 88169	Y	0.50		3.83	612,007	6,221,793	**3.33**
GGN 88170	**N**	0.52		**Destroyed**	611,984	6,221,717	**Destroyed**
GGN 88171	**N**	0.33	0.00	**Destroyed**	611,796	6,219,995	**Destroyed**
GGN 88172	**N**	0.68	0.00	**Destroyed**	611,599	6,219,595	**Destroyed**

O:\DO Files\002 Piezometers\Piezometer Readings\Piezometer Readings 2024-25\[2024-25 Piezometer Readings.xlsx]Buronga Annual

Coomealla								
Site ID	Use Y/N	Top of Pipe above NS (M)	NS (AHD)	Depth below top of pipe (M)	GDA94 Easting	GDA94 Northing	Condition	
CMA 11	Y	0.15	47.15	9.2	592895	6229556	9.05	Good
CMA 12	N	0.12	45.92	**destroyed**	593013	6228000	**Destroyed**	**destroyed**
CMA 13	N	0.34	38.61	7.44	592993	6226744	7.1	**dry**
CMA 14	N	0.09	41.81	10.49	594651	6230158	10.4	**dry**
CMA 15	N	0.03	35.28	**destroyed**	594820	6228585	**Destroyed**	**destroyed**
CMA 17	N	0.1	47.08	18	597386	6228912	17.9	**dry**
CMA 19	N	0.4	46.56	**destroyed**	597432	6224905	**Destroyed**	**destroyed**
CMA 22	N	0.07	38.34	6.6	599623	6223207	6.53	**dry**
CMA 23	N	0.12	51.22	19.25	603060	6227045	19.13	**dry**
CMA 24	N	0.28	35.98	**destroyed**	592996	6225377	**Destroyed**	**destroyed**
CMA 25	Y	0.08	35.83	5.08	596284	6224322	5	Good
CMA 26	Y	0.04	54.09	22.37	602274	6225545	22.33	Good
CMA 52	N	0.15	39.25	6.14	596000	6230939	5.99	**dry**
CMA 53	Y	0.07	53.2	6.35	597127	6226003	6.28	Good
CMA 56	N	0.075	57.75	**destroyed**	605572	6228666	**Destroyed**	**destroyed**
CMA 58	N	0.18	35.58	3.83	603036	6230266	3.65	**dry**
CMA 60	Y	0.15	48.57	12.66	600072	6231442	12.51	Good
CMA 63	N	0.07	47.3	6.38	599862	6230475	6.31	**dry**
CMA 67	Y	0.11	48.94	18.35	599207	6232534	18.24	Good
CMA 77	N	0.22	51.07	**destroyed**	601701	6229588	**Destroyed**	**destroyed**
CMA 78	N	0.16	44.25	12.68	603989	6231888	12.52	**dry**
CMA 79	N	0.14	40.56	8.35	604114	6230296	8.21	**dry**
CMA 82	N	0.12	35.59	**destroyed**	592955	6231606	**Destroyed**	**destroyed**
CMA1019	N	0.2	36.1	**destroyed**	601534	6232271	**Destroyed**	**destroyed**
CMA1022	N	0.36	32.09	**destroyed**	596696	6232849	**Destroyed**	**destroyed**
CMA1027	Y	0.33	40.67	3.24	594334	6230812	2.91	Good
CMA1061	Y	0.36	42.36	11.7	593236	6228785	11.34	Good
CMA1062	N	0.34		**Dry**	597172	6224021	**Dry**	**dry**
CMA1091	Y	0.3		3.2	603114	6229076	2.9	Good
CMA1092	N	0.25		3.1	602755	6229261	2.85	**dry**
CMA1094	N	0.4		6.1	602949	6229107	5.7	**dry**
CMA1110	N			6.95	598871	6226877	6.7	**dry**
CMA1200	Y	0.26	34.09	3.39	596119	6231971	3.13	Good
CMA1201	Y	0.28		19.96	599508	6227667	19.68	Good
CMA1202	Y	0.32		4.53	603224	6228415	4.21	Good
CMA1203	Y	0.4		5.8	599973	6229284	5.4	Good
CMA1204	N	0.34		10.7	594827	6227191	10.36	**dry**
CMA1205	Y	0.4		13.28	601310	6227913	12.88	Good
CMA1206	Y	0.2		18.67	602475	6227646	18.47	Good
CMA1207	Y	0.34	37.67	7.2	596892	6232801	6.86	Good

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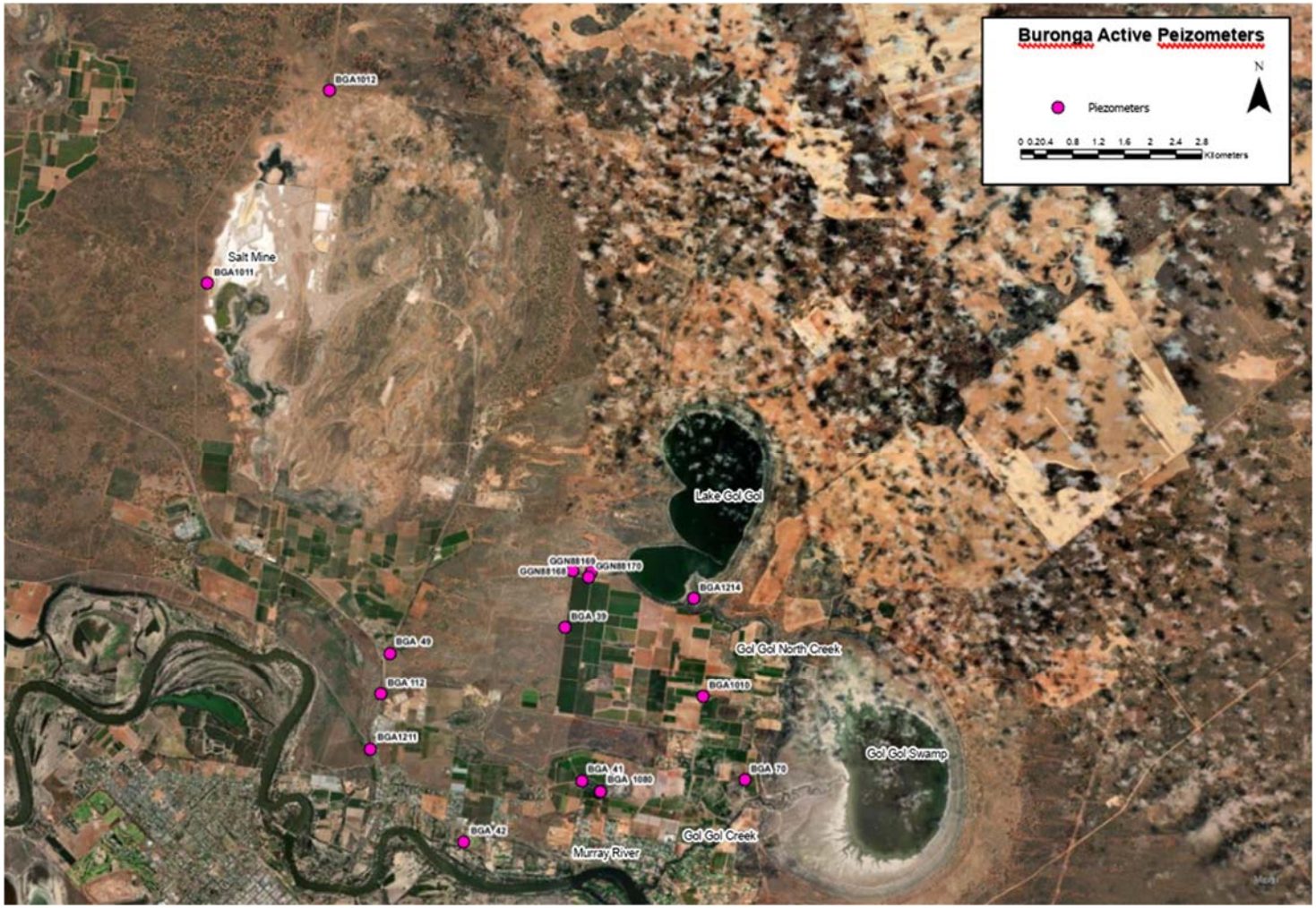
Curlwaa								
Site ID	Use Y/N	Top of Pipe above NS (M)	NS (AHD)	Depth below top of pipe (M)	GDA94 Easting	GDA94 Northing	Condition	
CWA 1/A	Y	0.2	35.89	5.1	590307	6225159	**4.9**	Good
CWA 5		0.08	33.07	4.4	589229	6225853	**4.32**	**dry**
CWA 6		0.21	35.14	5.7	589093	6226121	**5.49**	**dry**
CWA 11/A		0.2	33.1		UTF		**Unknown**	**utf**
CWA 12	Y	0.22	35.4	4.9	590326	6225103	4.68	Good
CWA 13		0.03	34.89		UTF		**Unknown**	**utf**
CWA 15		0.3	35.24	destroyed	588489	6225784	**Destroyed**	**destroyed**
CWA16s	Y	0.46	34.36	5.23	589316	6226566	4.77	Good
CWA 19		0.26	34.35	destroyed	UTF		**Destroyed**	**destroyed**
CWA 21/A		0.23	35.21		587658	6228057	**Unknown**	**utf**
CWA 23	Y	0.25	33.28	3.4	591468	6226176	3.15	Good
CWA 25		0.4	33.19	destroyed	589067	6223896	**Destroyed**	**destroyed**
CWA 27		0.16	34.36	destroyed	UTF		**Destroyed**	**destroyed**
CWA 28	Y	0.18	34.36	4.8	589765	6227007	4.62	Good
CWA 31		0.1	34.36	destroyed	589793	6227013	**Destroyed**	**destroyed**
CWA 41	Y	0.15	36.42	6.02	591912	6225789	5.87	Good
CWA 48	Y	0.14	35.82	6	589661	6225588	5.86	Good
CWA 50	Y	0.17	35.52	4.9	590311	6225624	4.73	Good
CWA 51	Y	0.08	35.29	4.9	590224	6225663	4.82	Good
CWA 59	Y	0.06	35.52	5.7	590446	6226182	5.64	Good
CWA 60	Y	0.26	35.52	5.5	590395	6226283	5.24	Good
CWA 80		0.07	35.12		UTF		**Unknown**	**utf**
CWA 81		0.08	33.56	destroyed	588372	6226389	**Destroyed**	**destroyed**
CWA 82	Y	0.22	34.89	4.3	588703	6224831	4.08	Good
CWA 84	Y	0.06	33.88	3.2	589011	6224669	3.14	Good
CWA 85		0.09	33.88	destroyed	UTF		**Destroyed**	**destroyed**
CWA 86		0.12	34.83	destroyed	589191	6223867	**Destroyed**	**destroyed**
CWA 87		0.1	34.38	destroyed	UTF		**Destroyed**	**destroyed**
CWA 88	Y	0.09	35.42	4.5	589408	6224552	4.41	Good
CWA 89	Y	0.02	35.5	5.03	589852	6225003	5.01	Good
CWA 90	Y	0.15	33.8	4.2	588577	6225009	4.05	Good
CWA 91/L	Y	0.15	33.5	4.7	589078	6225509	4.55	Good
CWA 92		0.16	34.39	destroyed	UTF		**Destroyed**	**destroyed**
CWA 93	Y	0.11	34.44	4.8	588580	6228587	4.69	Good
CWA 98		-0.03	35.96	destroyed	592017	6224404	**Destroyed**	**destroyed**
CWA 99	Y	0.2	36.52	6.14	592312	6224737	5.94	Good
CWA 100	Y	0.7	35.36	5	591373	6225168	4.3	Good
CWA 101	Y	0.15	36.24	5.98	592032	6225525	5.83	Good
CWA 102	Y	0.13	35.83	5.8	592345	6225956	5.67	Good
CWA 103		0.08	37.78	destroyed	UTF		**Destroyed**	**destroyed**
CWA 104	Y	0.15	35.15	5.1	590361	6229014	4.95	Good
CWA 105		0.23	34.34		587454	6226977	**Dry**	**dry**
CWA 111		0.06	33.89	destroyed	UTF		**Destroyed**	**destroyed**
CWA 113		0.12	33.71	destroyed	UTF		**Destroyed**	**destroyed**
CWA 115		0.15	33.92	destroyed	UTF		**Destroyed**	**destroyed**
CWA 119		0.15	34.61	destroyed	UTF		**Destroyed**	**destroyed**
CWA 142		0.15	35.84	destroyed	UTF		**Destroyed**	**destroyed**
CWA 150		0.21	32.39	destroyed	UTF		**Destroyed**	**destroyed**
CWA 162		0.1	34.6	destroyed	UTF		**Destroyed**	**destroyed**
CWA 165		0.15	36.3	destroyed	UTF		**Destroyed**	**destroyed**
CWA 167		0.01	35.01		589894	6226586	**Dry**	**dry**
CWA 173		0.15	34.26	destroyed	UTF		**Destroyed**	**destroyed**
CWA 174		0.1	34.69	destroyed	589215	6227059	**Destroyed**	**destroyed**
CWA 177		0.02	35.69	4.55	590423	6227002	**4.53**	**dry**
CWA 178		0.005	34.26	destroyed	591759	6226954	**Destroyed**	**destroyed**
CWA 179		0.13	34.81	destroyed	591121	6226813	**Destroyed**	**destroyed**
CWA 180		0.12	35.58		591190	6227287	**Dry**	**dry**
CWA 185		0.02	34.21	destroyed	589241	6227478	**Destroyed**	**destroyed**
CWA 187		0.005	35.5		588496	6227620	**Unknown**	**gone**
CWA 189		0.07	35.27	3.86	589318	6227957	**3.79**	**dry**
CWA 195		0.09	35.18	destroyed	UTF		**Destroyed**	**destroyed**
CWA 196		0.15	35.22	3.36	589724	6228311	**3.21**	**dry**
CWA 198		0.09	35.43	3.36	589391	6228743	**3.27**	**dry**
CWA 199		0.09	35.18	destroyed	UTF		**Destroyed**	**destroyed**
CWA1039	Y	0.22	34.72	4.4	591054	6225536	4.18	Good
CWA1041	Y	1.2	34.35	4.83	588734	6226034	3.63	Good
CWA1044	Y	0.32	34.06	3.3	588057	6223637	2.98	Good
CWA1045	Y	0.31	35.19	4.85	588173	6224402	4.54	Good
CWA1060	Y	0.24	34.66	4.44	591473	6228534	4.2	Good
CWA1083	Y	0.3	34.63	4.53	589367	6224994	4.23	Good
CWA1084		0.2	34.93	destroyed	588970	6224197	**Destroyed**	**destroyed**
CWA1085	Y	0.18	32.36	4.9	589201	6225858	4.72	Good
CWA1086	Y	0.32	34.88	4.87	591372	6225553	4.55	Good
CWA1087	Y	0.08	35.88	5.77	590628	6225858	5.69	Good
CWA1088		0.16	35.85	destroyed	590489	6227394	**Destroyed**	**destroyed**
CWA1131		0.17	33.69		587444	6229017	**Unknown**	**kelso no access**

O:\DO Files\002 Piezometers\Piezometer Readings\Piezometer Readings 2024-25\[2024-25 Piezometer Readings.xlsx]Curlwaa Annual

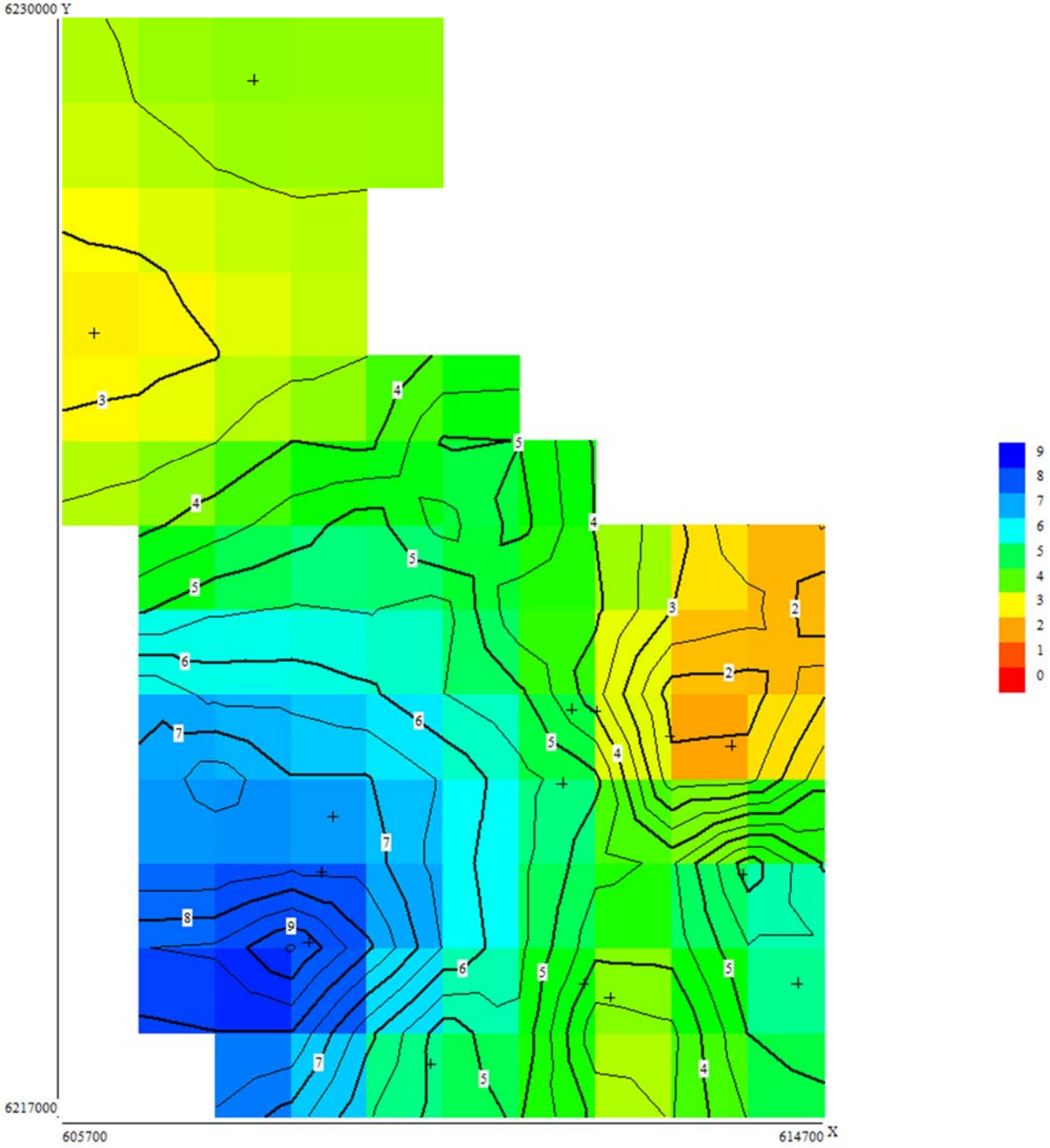
Attachment 2, p.2 - Condition 1

Map of groundwater depth below natural surface @ 2M contour intervals and including first 1M. Dry/destroyed piezometers are not used for constructing contour lines.

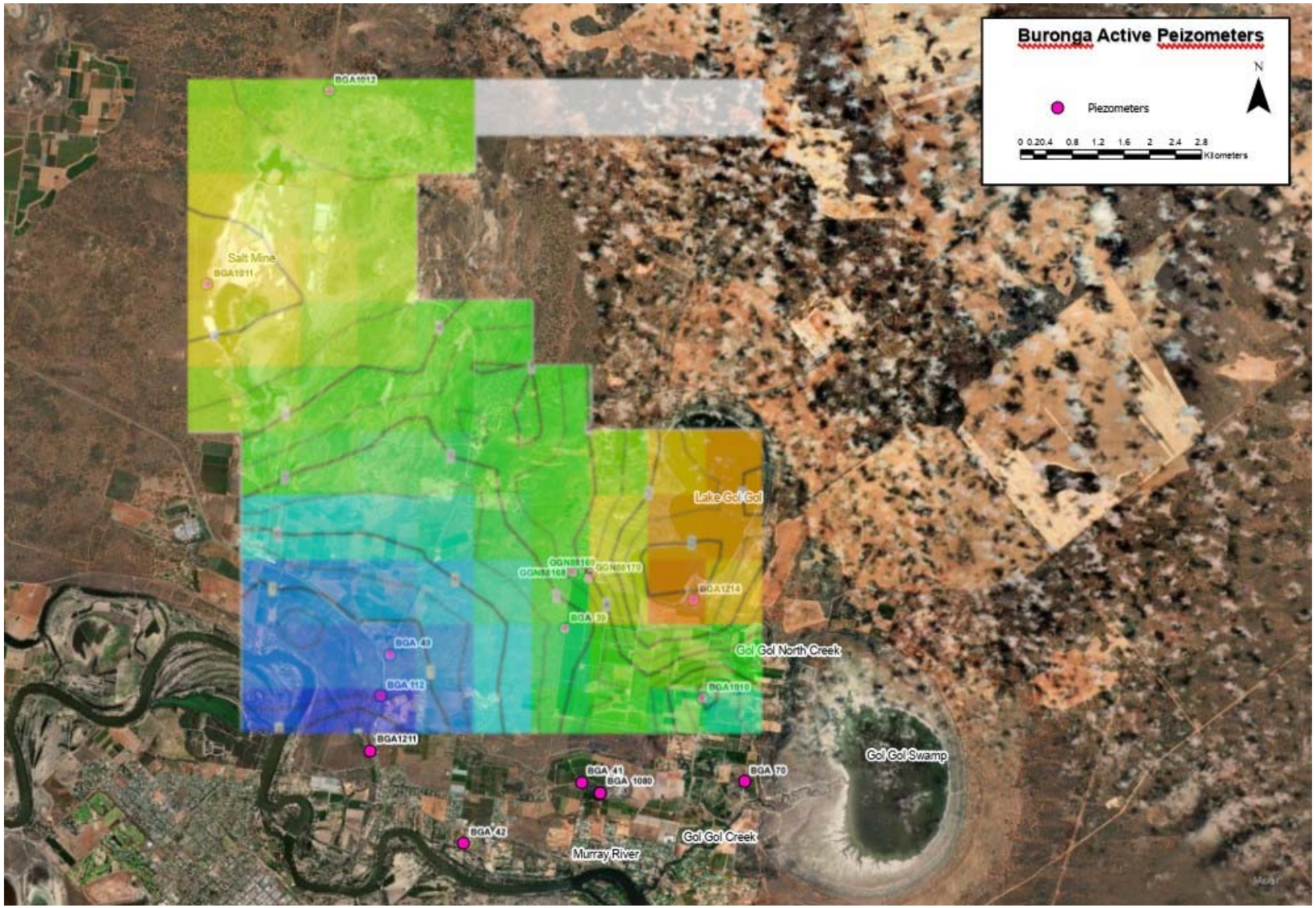
Location of Active Buronga Piezometers:



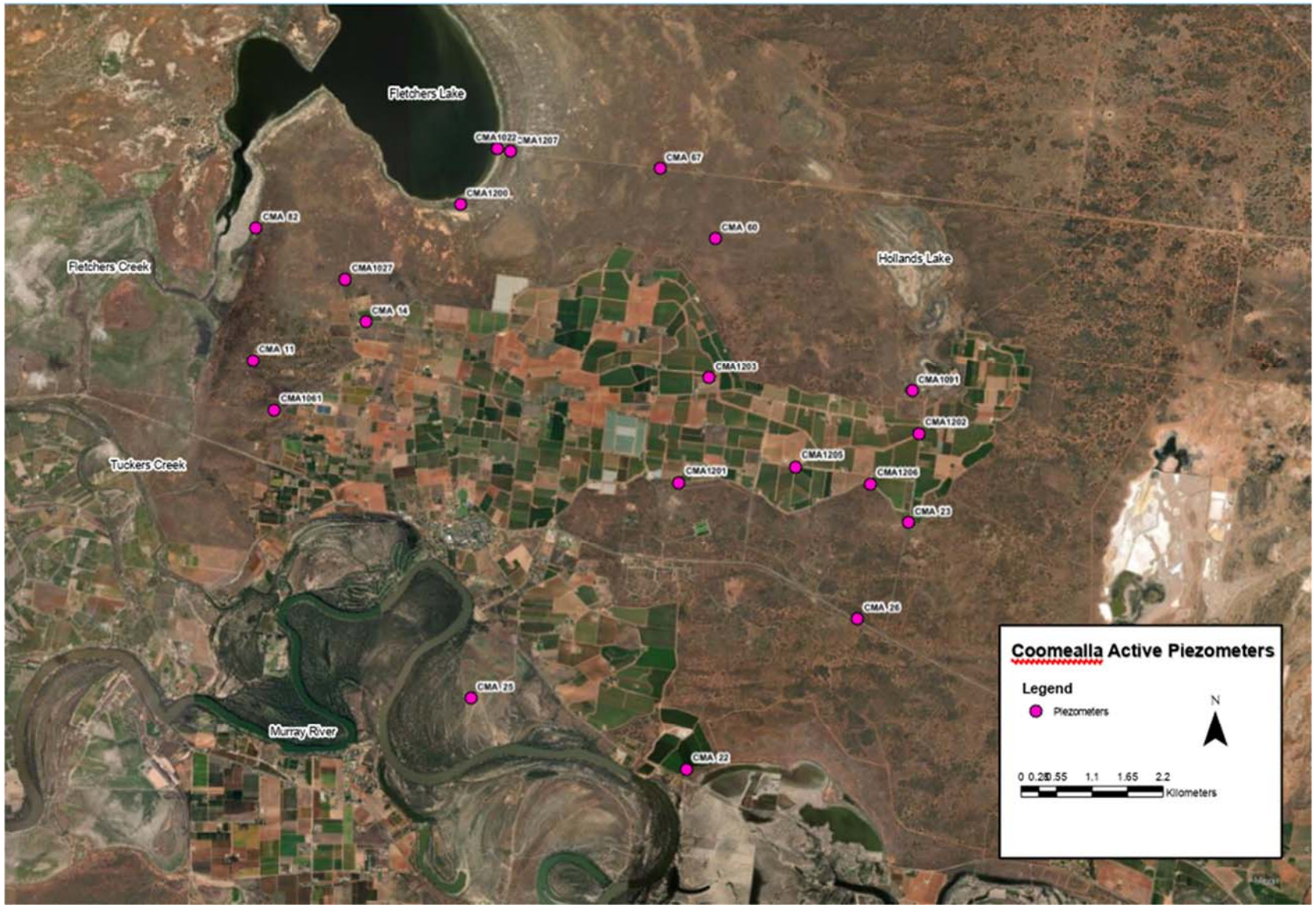
Buronga groundwater heights below natural surface (M)



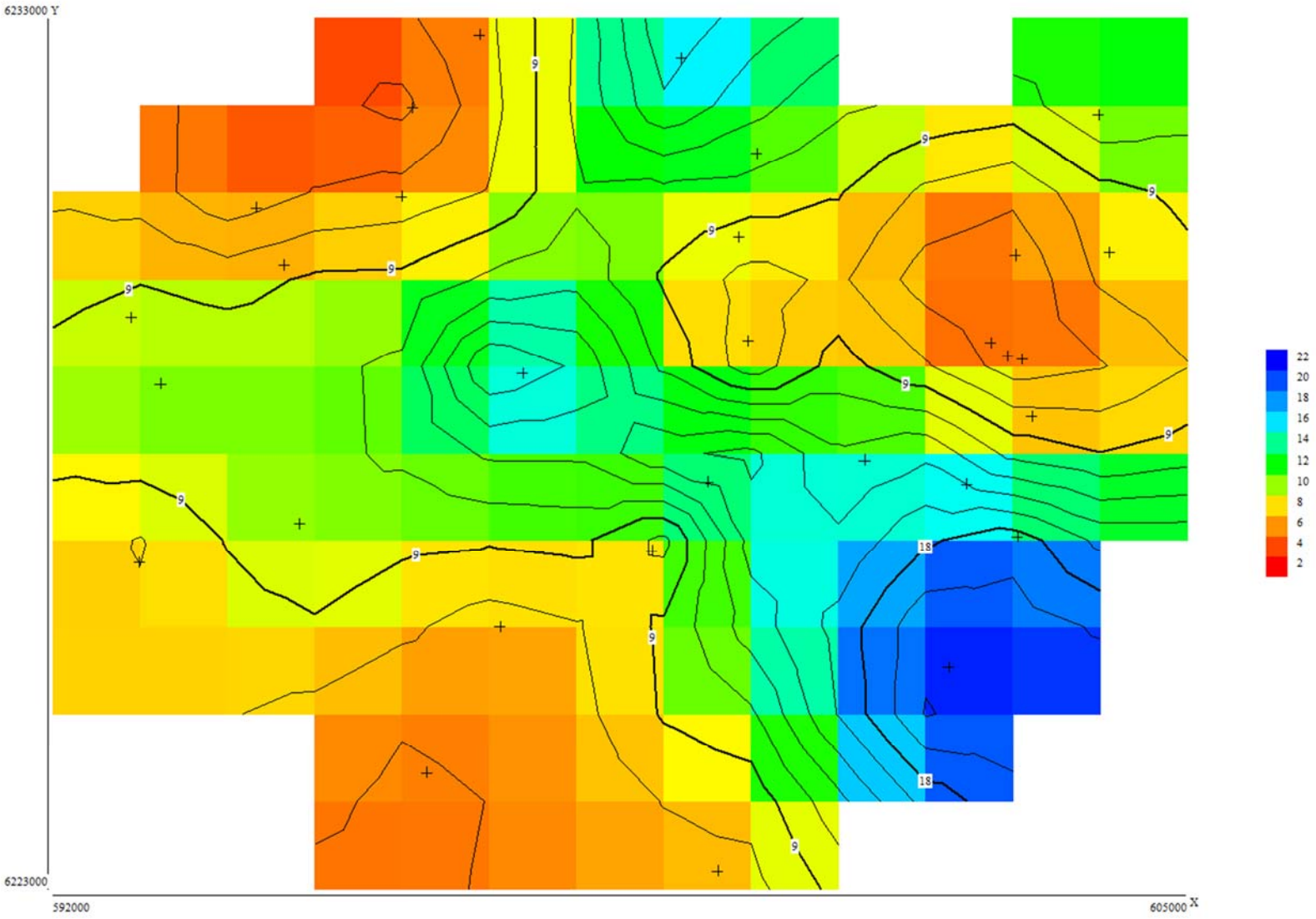
Buronga groundwater heights below natural surface (M), combined image:



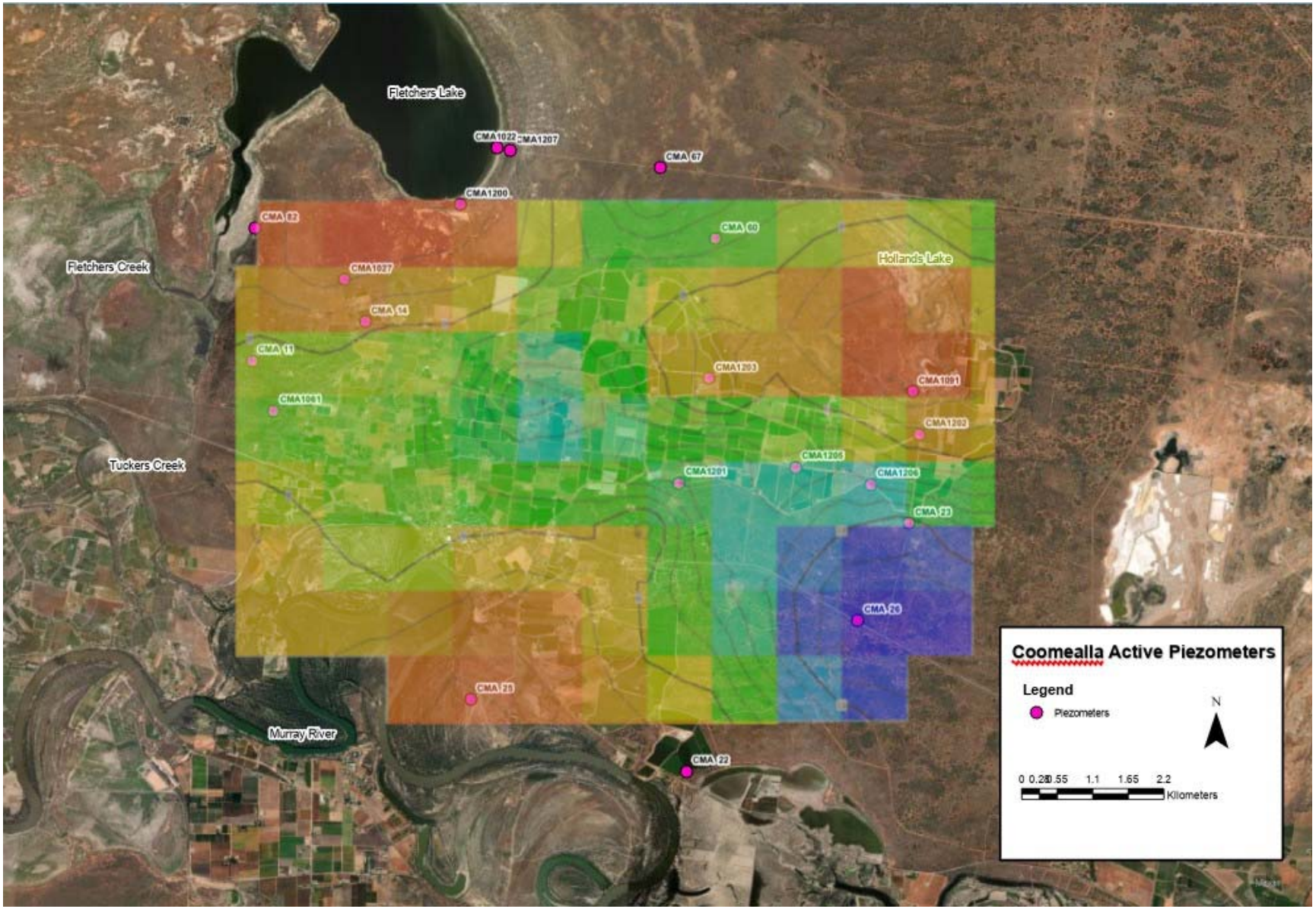
Location of Active Coomealla piezometers:



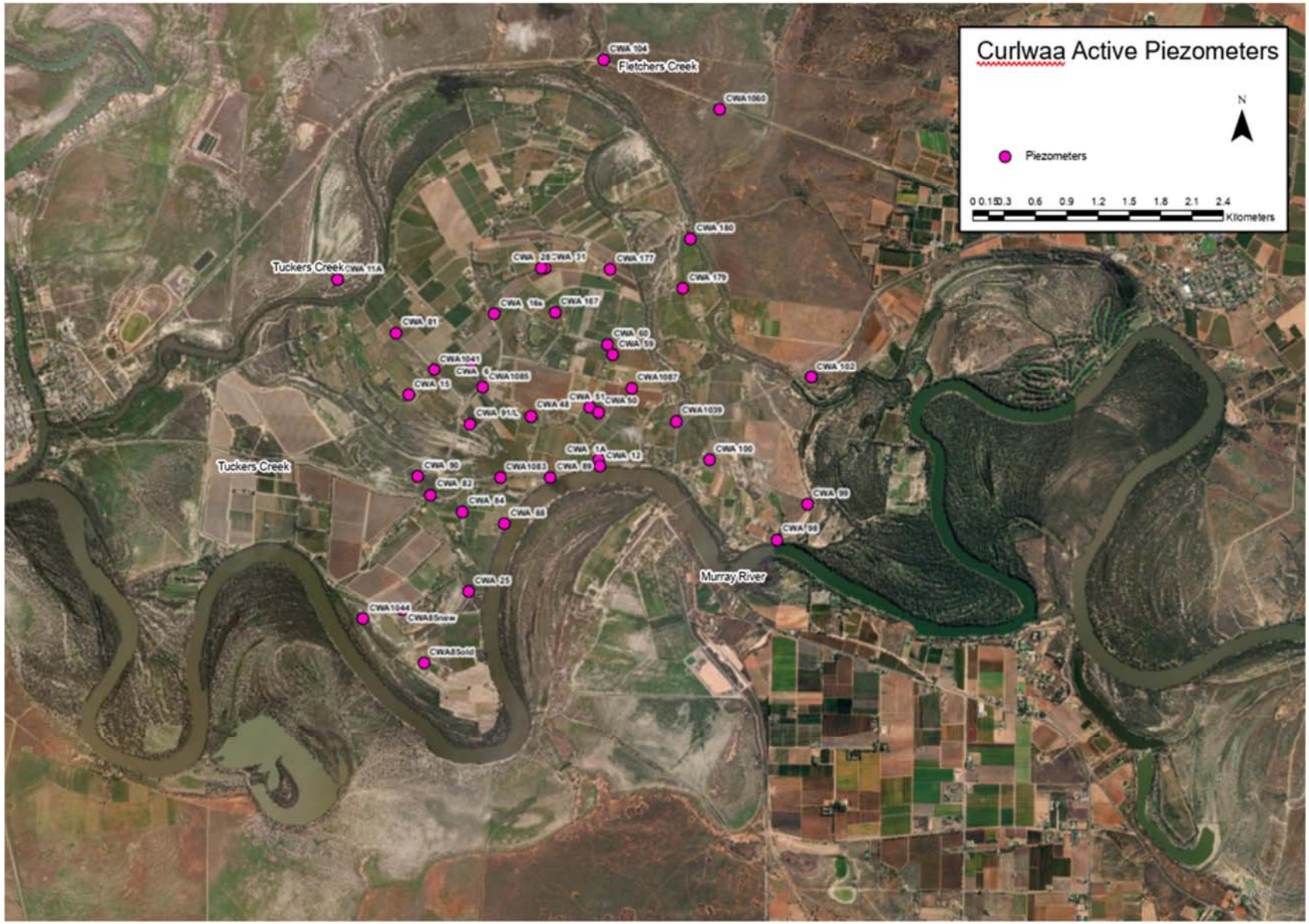
Coomealla groundwater height below natural surface (M):



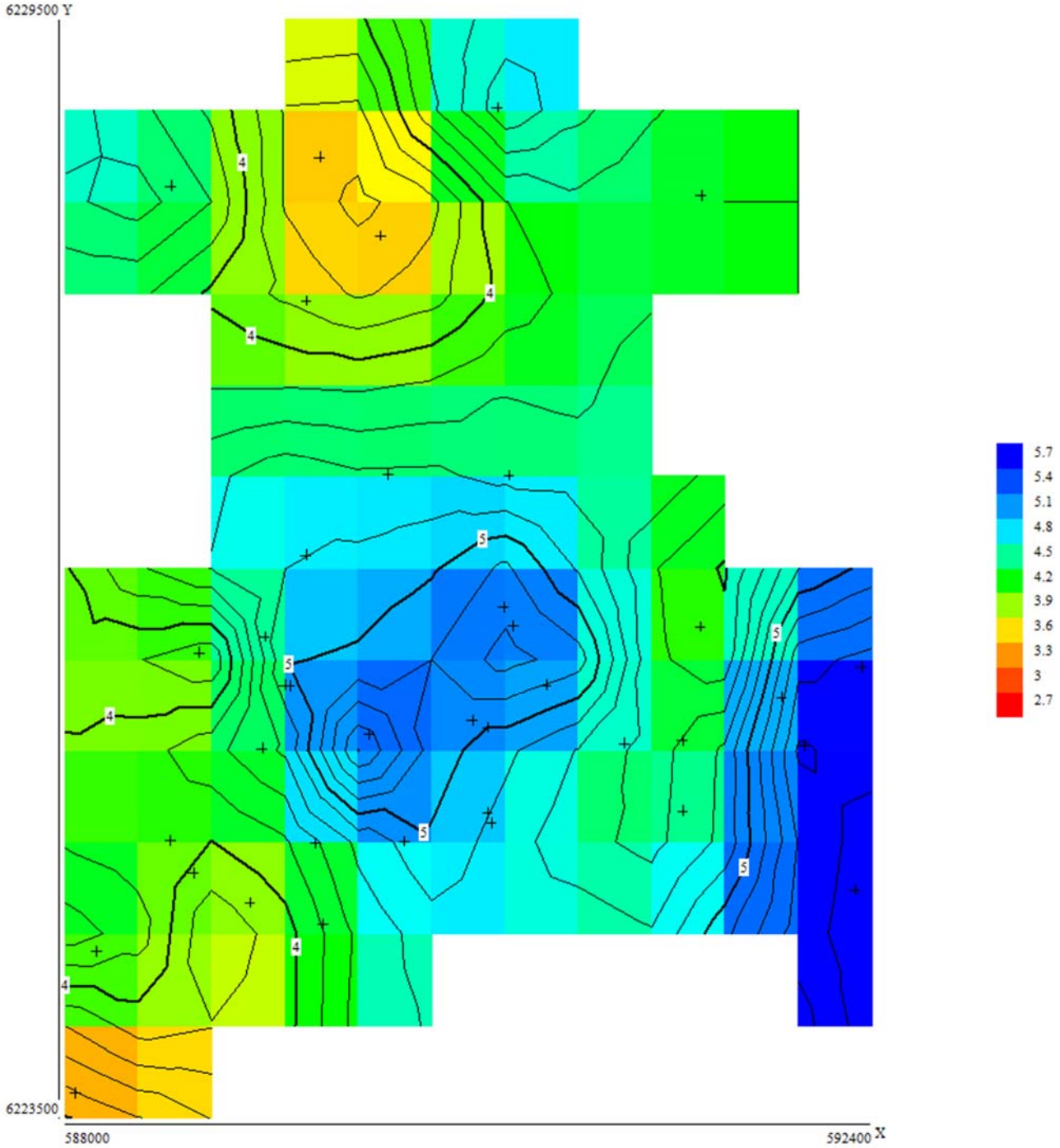
Coomealla groundwater heights below natural surface (M), combined image:



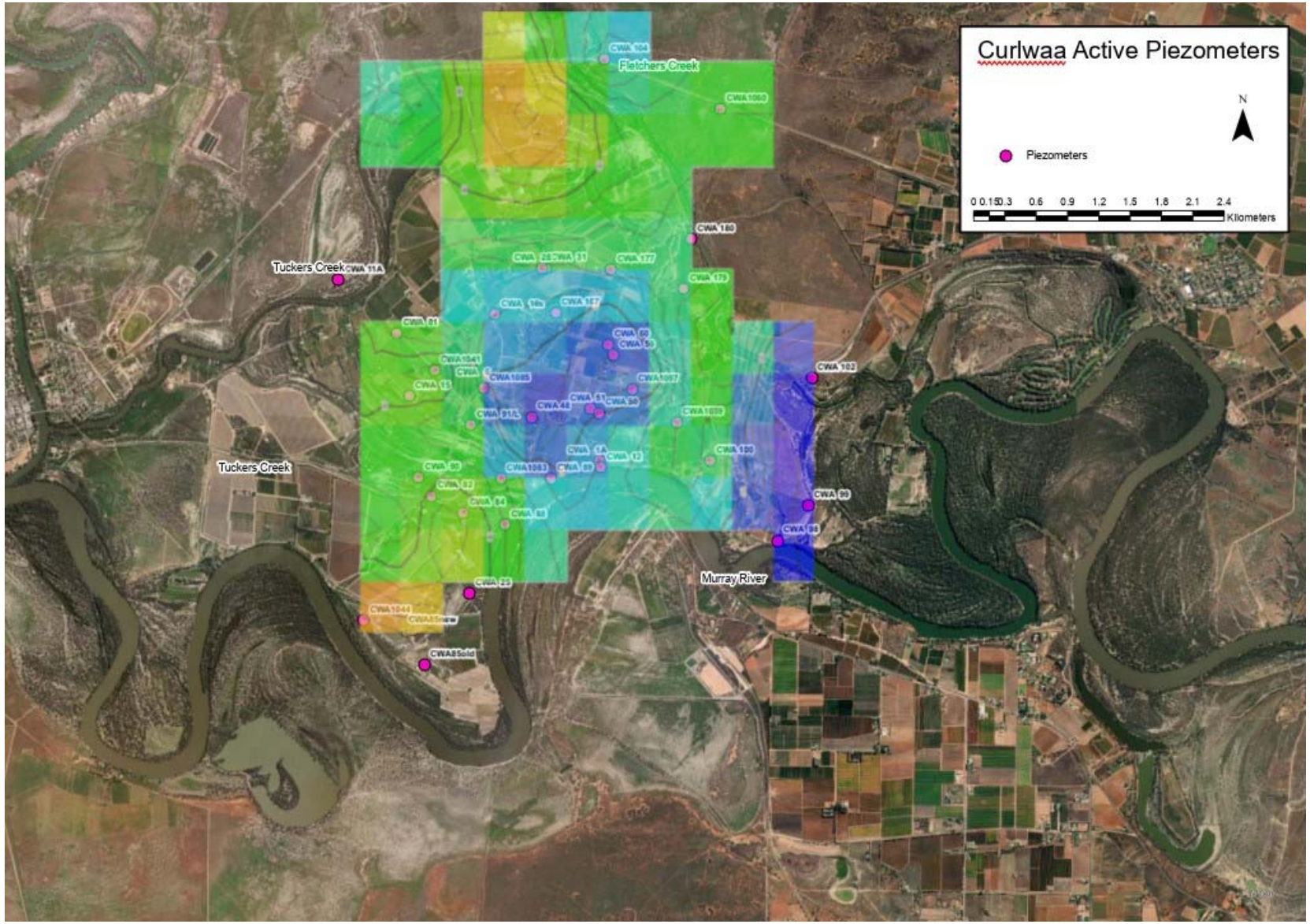
Location of Curlwaa active piezometers:



Curlwaa groundwater height below natural surface (M):



Curlwaa groundwater heights below natural surface (M), combined image:



Attachment 2, p.2 - Condition 2.
No consultation with the minister required, where levels have risen above the historical reference.

Groundwater contour maps have been provided at condition 1; All piezometers are read in August/September of each year.

Attachment 2, p.2 - Condition 3.
Table of entire 'mapped' area (ha) of shallow (<2M), moderate (2-4M) and >4M groundwater depth.

Approximate areas at different depths of groundwater (Ha)				
	<2M	2-4M	>4M	Total mapped area
Buronga	360	1710	6300	8370
Coomealla	100	900	10000	11000
Curlwaa	0	300	1600	1900

O:\DO Files\002 Piezometers\Piezometer Readings\Piezometer Readings 2024-25\[2024-25 Piezometer Readings.xlsx]Area of groundw ater and EC

- Evaporation basins form a large part of our area of operations, the figures indicate this as being a large area of high groundwater, whereas it is a low laying drainage/evaporation basin.

Attachment 2, p.2 –Condition 4.
Table of the change in the three depth class areas (ha) within the 'area of operations', relative to the previous and historical reference years:

Approximate areas at different heights of groundwater (ha)

2024/25				
	<2M	2-4M	>4M	Total op. area
Buronga	0	0	657	657
Coomealla	0	0	4,181	4,181
Curlwaa	0	0	1,641	1,641
2023/24				
	<2M	2-4M	>4M	Total op. area
Buronga	0	45	612	657
Coomealla	0	100	4,081	4,181
Curlwaa	0	100	1,541	1,641
2022/23				
	<2M	2-4M	>4M	Total op. area
Buronga	0	45	612	657
Coomealla	0	125	4,056	4,181
Curlwaa	0	150	1,491	1,641
2010/11				
	<2M	2-4M	>4M	Total op. area
Buronga	3.2	13.75	640.34	657
Coomealla	473.55	204.28	3502.91	4,181
Curlwaa	0	54.91	1586.09	1,641

2024/25 - 2023/24 difference (ha)			
	<2M	2-4M	>4M
Buronga	0	-45	45
Coomealla	0	-100	100
Curlwaa	0	-100	100
2023/24 - 2022/23 difference (ha)			
	<2M	2-4M	>4M
Buronga	0	0	0
Coomealla	0	-25	25
Curlwaa	0	-50	50

2024/25 - 2010/11 difference (ha)			
	<2M	2-4M	>4M
Buronga	-3.2	-13.75	16.95
Coomealla	-473.55	-204.28	677.83
Curlwaa	0	-54.91	54.91
2023/24 - 2010/11 difference (ha)			
	<2M	2-4M	>4M
Buronga	-3.2	31.25	-28.05
Coomealla	-473.55	-104.28	577.83
Curlwaa	0	45.09	-45.09

O:\DO Files\002 Piezometers\Piezometer Readings\Piezometer Readings 2024-25\[2024-25 Piezometer Readings.xlsx]Area of groundw ater and EC

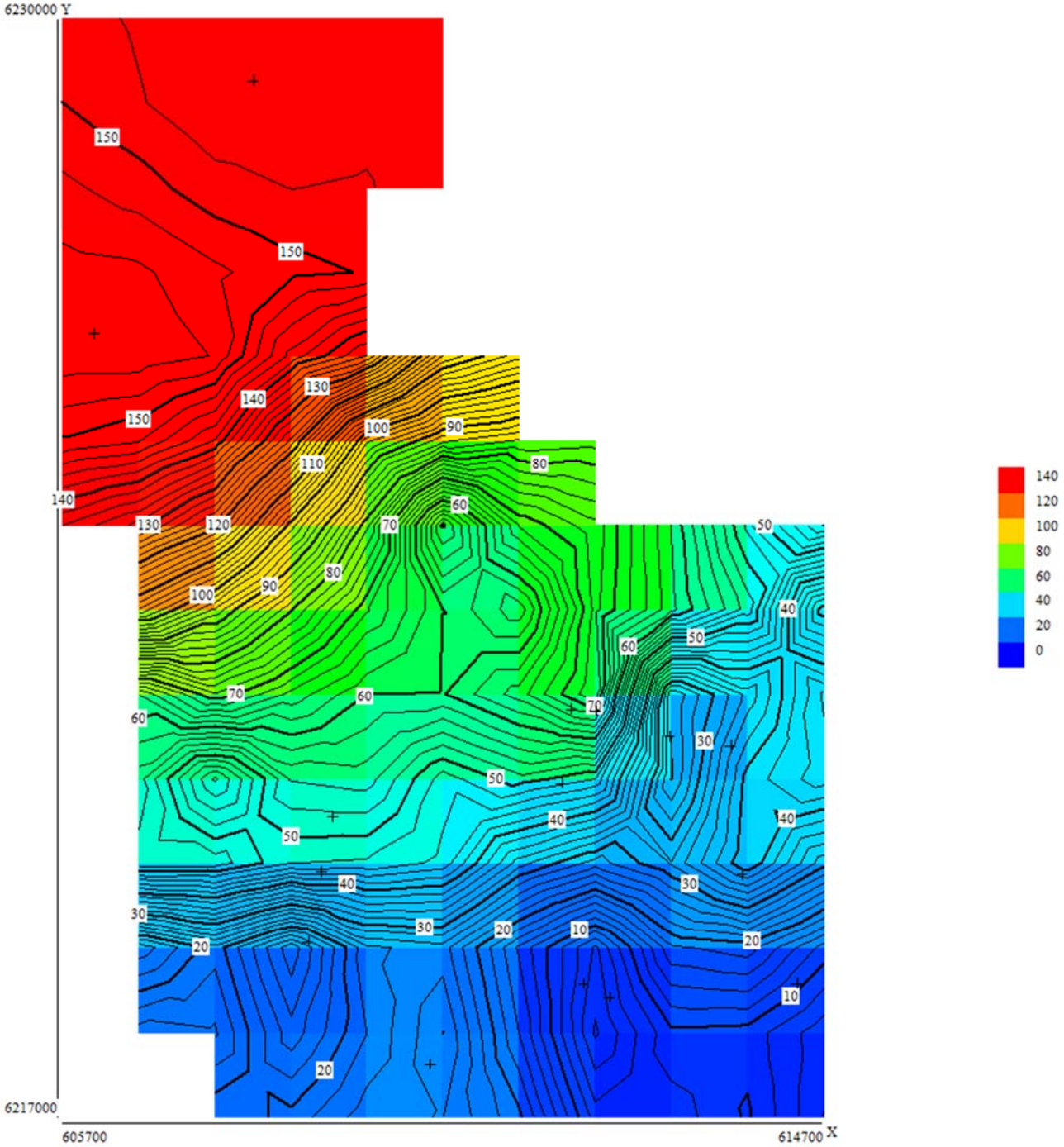
Buronga, Coomealla, and Curlwaa post flood water tables have returned to normal; all productive areas have a water table 4M lower than the natural surface. 2010/11 has been used as a significant historical year; up until August 2010 the prior year was close to average rainfall (277mm), followed by the wettest year on record. Groundwater monitoring and SIS review made an observation that significant rainfall changes the groundwater temporarily; below are monthly rainfall figures covering this monitoring period.

Monthly rainfall BOM – Mildura Airport:

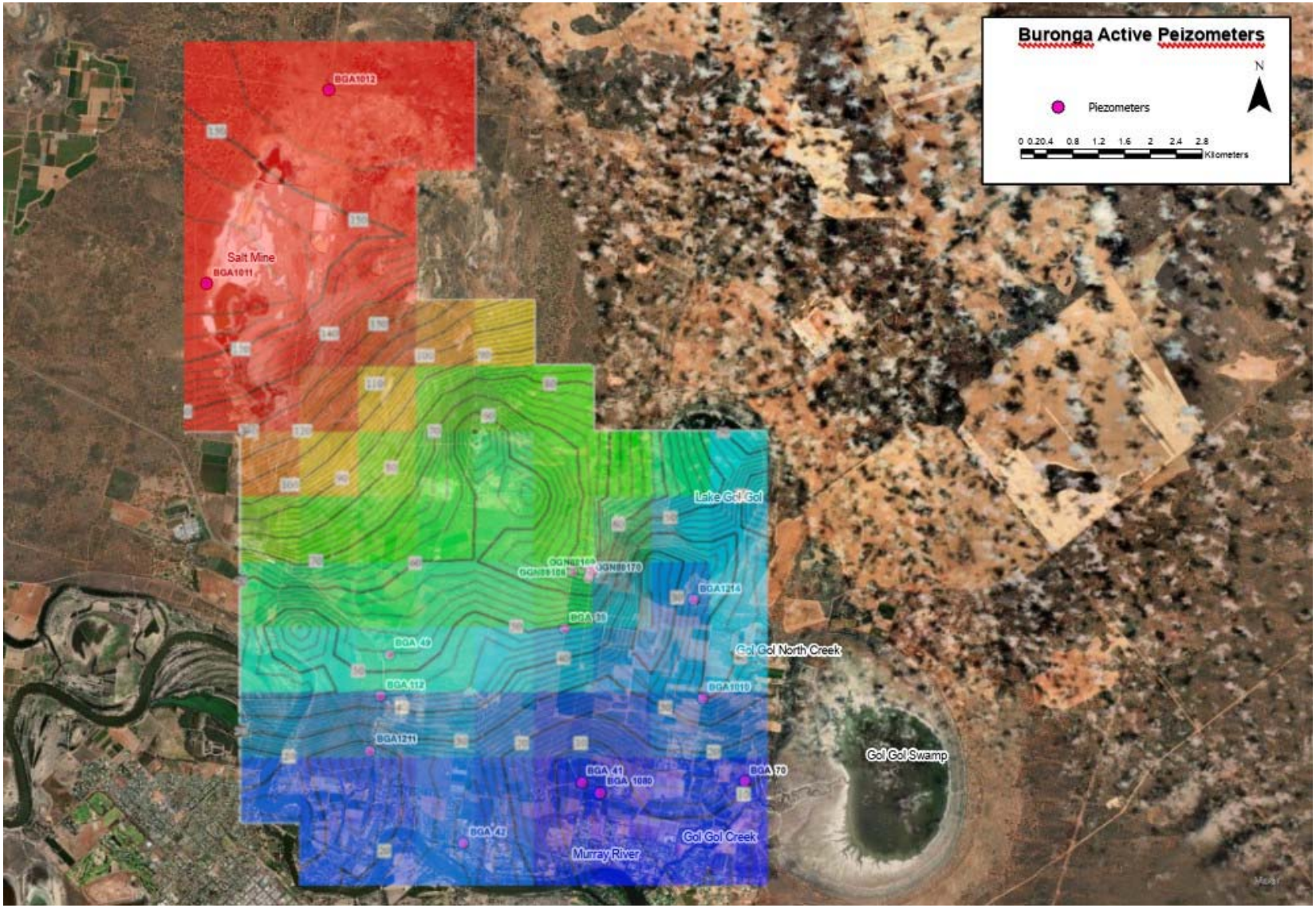
Season	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Total 2 years	Total 3 years
2009/10	11.8	8.2	30.4	10.8	65.6	13.2	8.4	19.8	35.8	18.8	51.2	14.6	288.6	517.6	668.4
2010/11	26.4	29.2	56.6	92.2	110.2	146.8	127.0	183.2	119.8	11.8	13.2	10.2	926.6	1,215.2	1,444.2
2011/12	15.4	20.8	7.2	27.6	43.4	61.8	12.6	36.6	64.2	4.0	2.6	8.0	304.2	1,230.8	1,519.4
2012/13	41.4	17.0	13.6	7.0	4.6	4.4	1.2	14.6	10.8	6.2	29.2	35.8	185.8	490.0	1,416.6
2013/14	14.8	10.4	18.8	14.4	2.4	57.8	0.6	67.2	29.2	58.4	22.8	6.4	303.2	489.0	793.2
2014/15	13.0	18.2	18.6	0.6	13.4	9.6	57.0	0.6	0.0	93.0	10.2	30.6	264.8	568.0	753.8
2015/16	11.6	12.0	13.0	3.8	6.0	1.6	68.2	0.2	0.4	3.0	43.4	18.2	181.4	446.2	749.4
2016/17	19.2	30.8	93.6	24.8	51.2	5.6	29.4	5.2	4.2	44.0	19.6	1.8	329.4	510.8	775.6
2017/18	4.0	34.0	4.0	23.0	55.4	45.0	3.4	0.2	2.2	1.8	17.4	19.2	209.6	539.0	720.4
2018/19	3.4	10.6	0.8	12.2	19.2	44.6	2.6	2.8	3.0	1.8	48.0	13.4	162.4	372.0	701.4
2019/20	10.4	5.4	12.0	0.0	13.8	2.6	2.8	11.0	27.6	48.6	48.1	8.4	190.7	353.1	562.7
2020/21	10.4	41.6	25.0	59.0	5.2	8.6	45.0	0.2	4.8	0.0	8.0	30.6	238.4	429.1	591.5
2021/22	32.2	11.8	14.8	15.2	56.6	1.6	86.2	6.0	14.8	49.0	52.8	17.0	358.0	596.4	787.1
2022/23	4.6	38.8	53.4	109.6	66.2	11.0	24.8	1.4	5.4	23.0	12.4	80.2	430.8	788.8	1,027.2
2023/24	34.2	13.8	2.4	35.8	36.3	13.0	35.6	3.4	6.6	1.8	18.4	15.6	216.9	647.7	1,005.7
2024/25	16.8	10.8	11.6	32.4	66.4	18.0	4.8	1.6	11.4	11.0	0.0	11.6	196.4	413.3	844.1

Attachment 2, p.2 – Condition 5
Groundwater salinity @ 0-2000, -5000, -10,000, -20,000, -30,000, -40,000 micro-Siemens/cm contours:

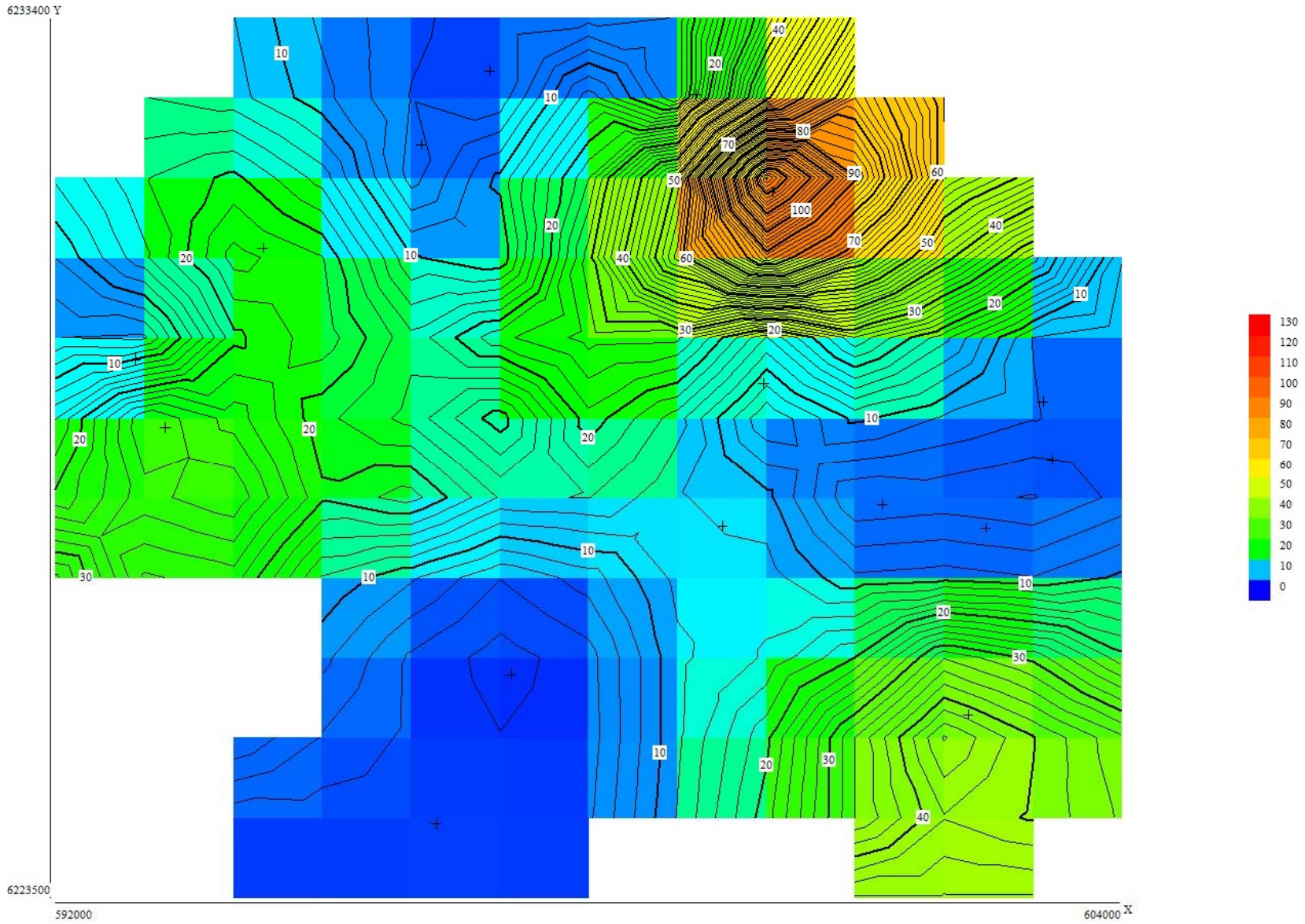
Buronga Salinity Contours (µ/Siemens/1000):



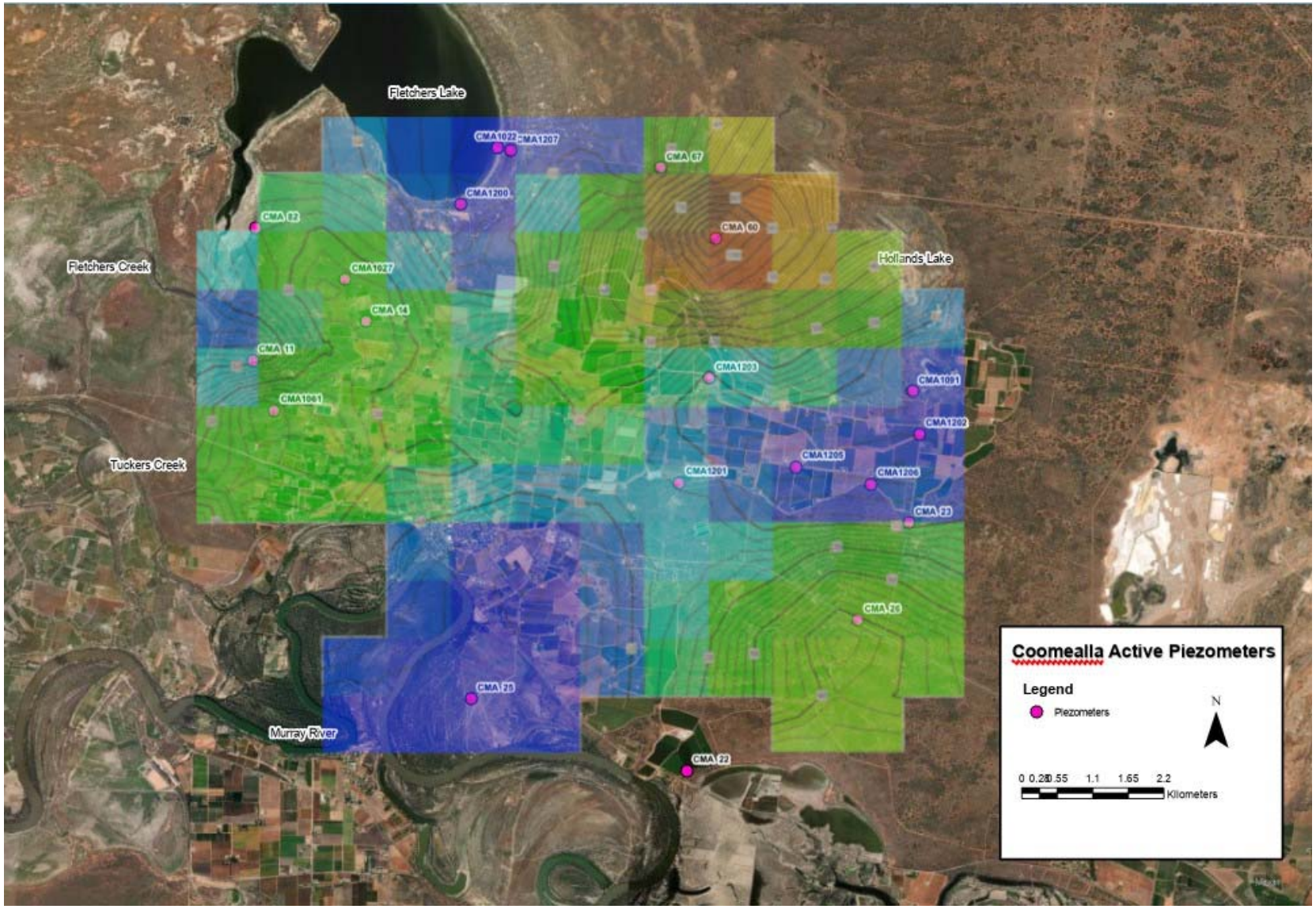
Buronga Salt Contours – Combined Image:



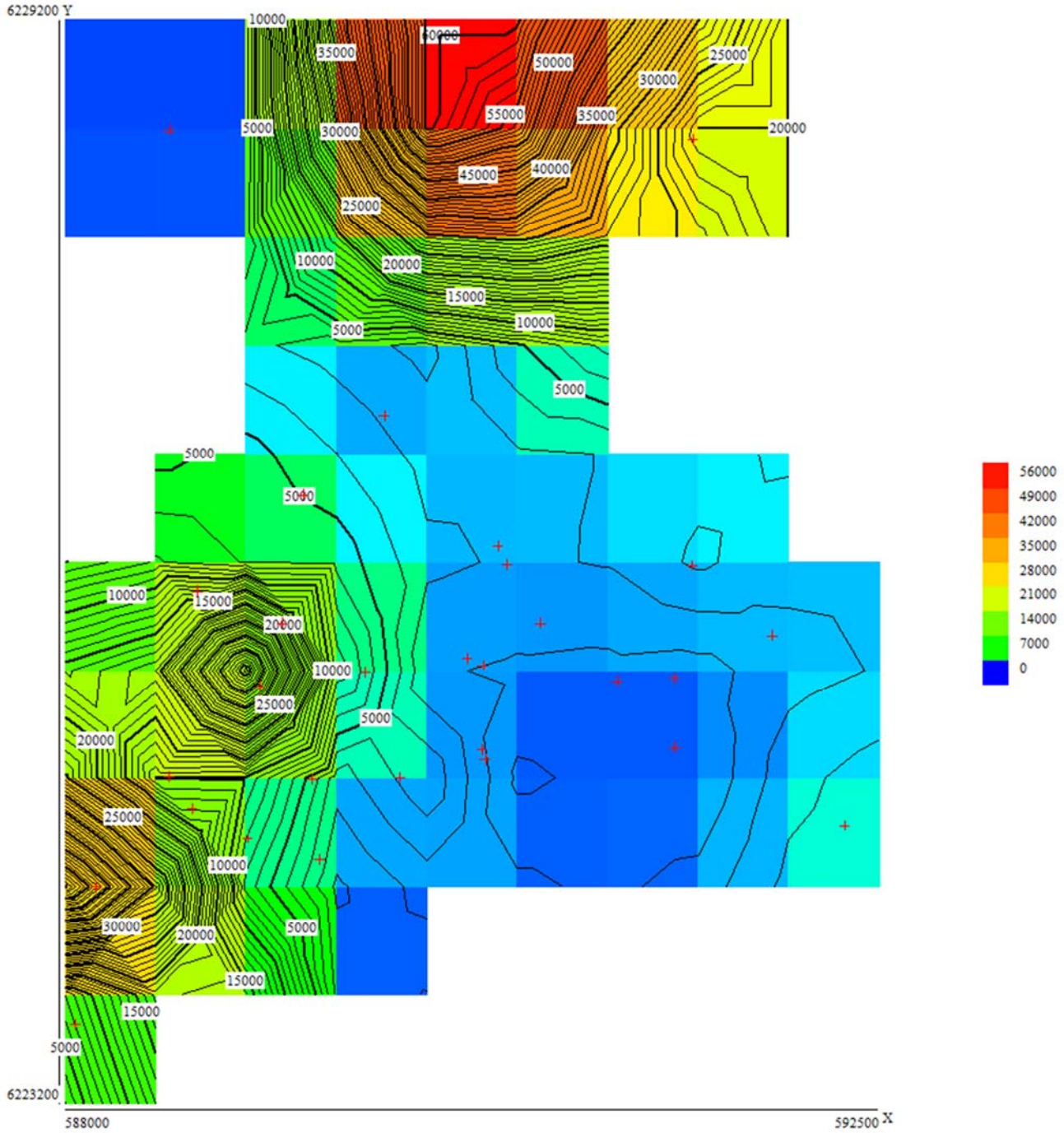
Coomealla Salinity Contours (µ/Siemens/1000):



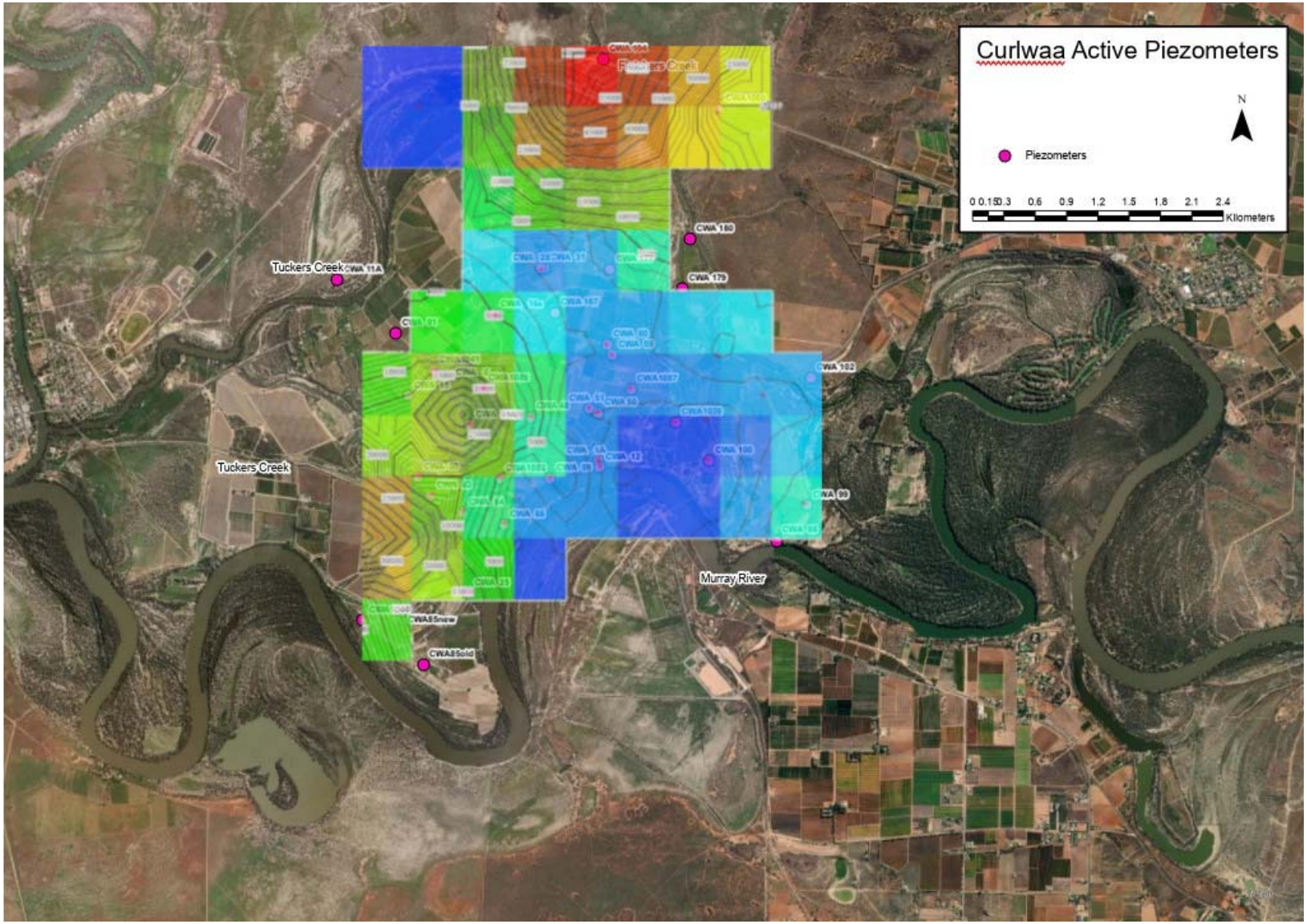
Coomealla Salt Contours – Combined Image:



Curlwaa Salinity Contours:



Curlwaa Salt Contours – Combined Image:



Tabulated approximate salinity (microSiemens/cm) interval areas, within areas of operations boundary, relative to the previous and historical reference year:

Approximate areas at different EC of groundwater (ha)

2024/25							
	0-2000	-5000	-10000	-20,000	-30,000	-40,000	Total op. area
Buronga	0	90	150	212	115	90	657
Coomealla	0	0	2500	1381	300	0	4,181
Curlwaa	270	330	570	210	180	81	1,641
2023/24							
	0-2000	-5000	-10000	-20,000	-30,000	-40,000	Total op. area
Buronga	0	90	270	297	0	0	657
Coomealla	0	1100	2700	381	0	0	4,181
Curlwaa	0	675	300	666	0	0	1,641
2022/23							
	0-2000	-5000	-10000	-20,000	-30,000	-40,000	Total op. area
Buronga	0	190	270	197	0	0	657
Coomealla	0	300	3481	400	0	0	4,181
Curlwaa	60	1101	480	0	0	0	1,641
2010/11							
	0-2000	-5000	-10000	-20,000	-30,000	-40,000	Total op. area
Buronga	7	20	154	141	148	188	657
Coomealla	123	615	984	1312	943	205	4,181
Curlwaa	43	756	194	432	130	86	1,641

O:\DO Files\002 Piezometers\Piezometer Readings\Piezometer Readings 2024-25\[2024-25 Piezometer Readings.xlsx]Area of groundw ater and EC

2024/25 - 2023/22 difference (ha)						
	0-2000	-5000	-10000	-20,000	-30,000	-40,000
Buronga	0	0	-120	-85	115	90
Coomealla	0	-1100	-200	1000	300	0
Curlwaa	270	-345	270	-456	180	81
2023/24 - 2022/23 difference (ha)						
	0-2000	-5000	-10000	-20,000	-30,000	-40,000
Buronga	0	-100	0	100	0	0
Coomealla	0	800	-781	-19	0	0
Curlwaa	-60	-426	-180	666	0	0

2023/24 - 2010/11 difference (ha)						
	0-2000	-5000	-10000	-20,000	-30,000	-40,000
Buronga	-7	70	-4	71	-33	-98
Coomealla	-123	-615	1516	69	-643	-205
Curlwaa	227	-426	376	-222	50	-5

All areas have seen a large change in salinity, particularly an increase above 30,000 microSiemens/cm. Groundwater salinity seems to have been affected by flood water and the contents of drainage basins evaporating slowly over time.

Attachment 2, p.2 – Condition 6.

It is unknown whether there are alternative presentation formats approved by the minister; therefore, presentation is as close as possible to requested.

Attachment 2, p.3
Groundwater Control bores (Tubewells) Details

Tubewells are run once a month for a 4–5-day period as part of maintenance. have been active due to high river levels from October2022 to 20Mar23:

District	Curlwaa									Location Details				Type	Magmeter 200mm				
Work/Site Identifier	CWA 1									Mildura 7329-N 1:50,000 map				Dimensions	200mm pipe				
Name	Tubewell Pump Station									589087E		6225688N			X- Section = .0314m2				
Representing discharge	Discharge to Fletchers Creek													Capacity	8 ML/D				
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits		
Volume (ML)	5.67	0.03	2.75	0.25	1.83	0.00	4.12	0.00	2.90	1.78	0.06	0.00	19.4 ML	5.7	0.0	1.6	Flow	No Flow	
Salt Load (T)	18.21	0.09	9.68	0.36	3.28	0.00	9.02	0.00	6.61	4.52	0.14	0.00	51.9 T	18.2	0.0	4.3			
Average EC	5,021	4,973	5,500	2,200	2,799	NA	3,416	3,200	3,560	3,975	3,500	NA		5,500	2,200	4,183	16	36	
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CW1 Tubewell Station																	52		

District	Curlwaa									Location Details				Type	Submersible Pump				
Work/Site Identifier	CW 2									GDA94-Z54				Dimensions	100mm				
Name	Tubewell Pump No.1 - Knipes									589780E		6227019N			X- Section = 0.01m^2				
Representing discharge	Discharges to Tubewell Station													Capacity	0.5 ML/D				
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits		
Volume (ML)	0.00	0.00	1.53	0.00	0.82	0.00	0.00	0.00	1.00	0.00	0.00	0.00	4.4 ML	1.5	0.0	0.3	Flow	No Flow	
Salt Load (T)	0.00	0.00	4.11	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.77 T	4.1	0.0	0.5			
Average EC			4,200		3,800		0	0	0					4,200	0	3,102	6	46	
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CW2 Tubewell No1-Knipes																	52		

District	Curlwaa									Location Details				Type	Submersible Pump				
Work/Site Identifier	CW 3									GDA94-Z54				Dimensions	100mm				
Name	Tubewell Pump No.2 - Acacia Road									588579E		6226214N			X- Section = 0.01m^2				
Representing discharge	Discharges to Tubewell Station													Capacity	0.5 ML/D				
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits		
Volume (ML)	0.00	0.47	0.00	0.00	0.62	0.00	0.00	0.00	2.89	0.00	0.88	0.00	4.9 ML	2.9	0.0	0.4	Flow	No Flow	
Salt Load (T)	0.00	1.66	0.00	0.00	1.32	0.00	0.00	0.00	3.33	0.00	1.29	0.00	7.61 T	3.3	0.0	0.6			
Average EC		5,500			3,300		0	0	1,805		2,300			5,500	0	2,446	6	46	
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CW3 Tubewell No2-Acacia Road																	52		

District	Curlwaa									Location Details				Type	Submersible Pump				
Work/Site Identifier	CW 4									GDA94-Z54				Dimensions	100mm				
Name	Tubewell Pump No.3 - Olive Lane									589732E		6225474N			X- Section = 0.01m^2				
Representing discharge	Discharges to Tubewell Station													Capacity	0.5 ML/D				
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits		
Volume (ML)	0.00	0.76	0.45	0.00	0.57	0.00	0.00	0.00	3.01	0.00	0.66	0.00	6.6 ML	3.0	0.0	0.5	Flow	No Flow	
Salt Load (T)	0.00	0.00	1.58	0.00	0.91	0.00	0.00	0.00	11.56	0.00	1.43	0.00	17.72 T	11.6	0.0	1.3			
Average EC		0	5,500		2,500		0	0	6,000		3,400			6,000	0	4,190	7	45	
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CW4 Tubewell No3-Olive																	52		

District	Curlwaa									Location Details				Type	Submersible Pump				
Work/Site Identifier	CW 5									GDA94-Z54				Dimensions	100mm				
Name	Tubewell Pump No.4 - Rice									590420E		6226103N			X- Section = 0.01m^2				
Representing discharge	Discharges to Tubewell Station													Capacity	0.5 ML/D				
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	Max	Min	Av.	Site Visits		
Volume (ML)	0.00	1.24	1.55	0.00	0.35	0.00	0.00	0.00	3.00	0.00	0.87	0.00	8.8 ML	3.0	0.0	0.6	Flow	No Flow	
Salt Load (T)	0.00	5.17	8.42	0.00	0.57	0.00	0.00	0.00	14.42	0.00	1.79	0.00	38.32 T	14.4	0.0	2.5			
Average EC		6,500	8,500		2,500		0	0	7,500		3,200			8,500	0	6,806	10	42	
O:\DO Files\001 Drainage\000 Drainage Figures\Drainage 2024-25\[WMIL Drainage 2024-25.xlsx]CW5 Tubewell No4-Rice																	52		

Quality Assurance for Monitoring & Reporting

Condition 3.
All monitoring and reporting are carried out in accordance with the DPI NSW publication "Salinity Training Manual" (2014).

Presentation of Data

Condition 4.
There has been no written request from the minister for presentation of any primary monitoring data or other material.

Environment Protection and Management Requirements

Discharge of Noxious Aquatic weeds

Condition 5.
WMI did not discharge any noxious aquatic weeds.

Discharge of Blue-Green Algae

Condition 6.
WMI pumps directly from the River Murray and has a fully pipelined system. Blue green algae monitoring on the river is performed by external parties and reported to stakeholders, including WMI. There is no discharge of Blue-Green Algae from WMI systems.

Basin Salinity Management Strategy

Condition 7.
There were no practices undertaken to increase the salinity debit; however, it is evident that WMI has improved salinity management over the long term.

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